The National Maternity Hospital
ANNUAL REPORT 2023

The National Maternity Hospital
Holles Street

ANNUAL REPORT 2023

This Annual Report should be read in conjunction with the Annual Financial Statements which provide certain additional information required under the Code of Practice for the Governance of State Bodies Business and Financial Reporting Requirements purposes.

Front cover image: *Marcus Carey. Image: Mark Griffin Photography.*

The NMH Mission and Vision Statements

Mission

We are the national centre of clinical excellence in maternal, neonatal and gynaecological health. Our mission as leaders in women's healthcare is to deliver the highest quality of safe, evidence-based care. We are committed to providing choice, listening to and learning from our patients' experiences. Through excellence and innovation in research and education, we drive the advancement of women and babies' healthcare in Ireland. Our outstanding team is our greatest asset – we are dedicated to investing in and supporting our people.

Vision

To continuously advance the health of women and babies through excellence in care led by dedicated teams.

Values

Quality
Compassion
Respect
Collaboration
Innovation
Sustainability

Births
6,764

Babies
6,880

Staff
930

Outpatient Attendances
120,000+

Ultrasound Scans
32,328

Radiology Exams
7,200

Specimens Received
199,910

Caesarean Section Rate
36.1%

Beds
196

Emergency Room Attendances
12,000+

Medications Dispensed
24,923

Breastfeeding Rate
71%

Food Safety Professionals Association Audit
100%

Neonatal Unit Admissions
1,202

Avg Age of First Time Mother
32

Contents

GOVERNANCE REPORTS
6 Deputy Chairman
8 Master
11 Honorary Treasurer
12 Executive Committee (The Board)
20 Secretary/General Manager
22 Director of Midwifery and Nursing

24 SUB COMMITTEES OF THE BOARD REPORTS
24 People and Organisation
25 Audit
26 Quality, Risk and Patient Safety
27 Co-Location
28 Medical Fund
29 House Committee

30 MASTERS OF THE NATIONAL MATERNITY HOSPITAL

31 CHARTER DAY LECTURES

33 EXECUTIVE COMMITTEE (THE BOARD)

36 COMMITTEE MEMBERS
Executive (The Board)
Finance
Audit
Quality Risk & Patient Safety
Co-location
Nominations
Medical Fund
NMH Executive Ethics
House
People & Organisation

38 BOARD OF GOVERNORS
Governor's Ex-Officio
Nominated by the Minister for Health
Nominated by Dublin City Council
Governors Elected

39 PROFESSIONAL ADVISORS

NEONATOLOGY
40 Neonatology
59 Neonatal and Infant Mortality
65 Neonatal Encephalopathy

MATERNITY AND OBSTETRICS
70 Antenatal Education
71 Bereavement
72 Breastfeeding Support Services
74 Community Midwifery Service
79 Birth Reflection Service
80 Diabetes in Pregnancy
82 Labour and Birthing Unit
83 Labour and Delivery Audit
109 Maternal Mortality/Severe Maternal Morbidity
110 Maternal Medicine Service
114 Maternity Outpatient Clinics
116 Multiple Pregnancy
118 Perinatal Genetics
119 Perineal Clinic
120 Placenta Accreta Spectrum
122 Postnatal Clinic (The Poppy Clinic)
123 Preterm Birth Clinic
124 Shoulder Dystocia
126 Smoking Cessation
127 Termination of Pregnancy
128 Fetal Medicine

GYNAECOLOGY AND COLPOSCOPY
135 Colposcopy and Gynaecology Clinics
136 Colposcopy
138 Complex Menopause
139 Gynaecology Oncology
140 Ambulatory Gynaecology
141 Paediatric and Adolescent Gynaecology
142 Reproductive Medicine & Surgery
147 Urogynaecology

OTHER CLINICAL SERVICES
149 Anaesthesia, Pain Medicine and High Dependency Care
151 Emergency Department
152 Perinatal Mental Health
154 Pathology and Laboratory Medicine
158 Pre-Assessment Clinic

QUALITY AND SAFETY SERVICES
159 Hospital Sterile Services
160 Quality, Risk and Patient Safety
164 Health and Safety
165 Maternal and Newborn Clinical Management System (MNCMS)
168 Occupational Health
169 Infection Surveillance, Prevention & Control
172 Haemovigilance

ALLIED HEALTH SERVICES
173 Clinical Nutrition and Dietetics
176 Clinical Engineering
177 Medical Social Work
178 Pharmacy
181 Physiotherapy
183 Psychosexual Therapy
184 Radiology

ADMINISTRATION
185 Compliance & Data Protection
186 Hospital Inpatient Enquiry (HIPE)
187 Human Resources
190 Information Technology
192 Information Management
193 Patient Services and FOI
194 Purchasing and Supplies
194 Tendering
195 Development Project Office NMH @Elm Park

SUPPORT SERVICES
197 Catering
198 Chaplaincy
199 Facilities (Engineering, Maintenance & Environment)
200 General Services (Hygiene, Portering, Switch)

EDUCATION
202 Hospital Education
204 Midwifery and Nursing Education and Practice Development
205 Royal College of Surgeons in Ireland
206 University College Dublin
210 Research Ethics Committee
211 Research and Innovation Symposium Exhibition (RISE)
212 Joint Research Network

APPENDICES
215 Financial Statements
217 Clinical & Administrative Activity
228 Theatre Procedures
229 Sustainability Report
230 Healthy Ireland
231 Published Research
239 Staff
245 Candidacy Checklist for Neonatal Therapeutic Hypothermia
247 Glossary
250 Definitions

Hazel and Charlie Fox with their newborn baby son Charlie.

Deputy Chairman's Report

2023 was another eventful and exciting year at NMH. Despite all the challenges with our current building on Holles Street all our people delivered truly excellent care and compassion to our patients. Innovation and creativity abounds in NMH all with the aim of improving patient care and outcomes. The positive can do attitude never fails to amaze me and this reflects in the quality of people we attract to work in NMH. I sit in on interviews for consultant positions. Both the number and quality of people we attract is a testament to the excellent reputation of NMH. This augurs well for the future of NMH as all these excellent new hires will add significantly to the existing excellent team.

The number of deliveries has remained reasonably static during 2023. Once again an analysis of the data indicates that 48.6% of our births are to women aged 35 years or older and 11.7% of those are aged over 40 which can lead to additional complications.

We have continued to expand and develop services for women in fertility, genetics, menopause, mesh, pain management, psycho sexual counselling and perinatal mental health to highlight just a few of the recent areas of expansion. The National Maternity Hospital (NMH) are one of the six national hubs for the roll out of the public fertility services. Our aim is to continue to provide excellent care for our patients and to offer them choice and options for all the services that they may require. We will do this with the assistance of the National Women's and Infant Health Programme (NWIHP) and the Ireland East Hospital Group (IEHG) in pursuing the implementation of the National Maternity Strategy and the rollout of Sláintecare with NMH being the major hub in the Eastern Region for the provision of women's and neonatal care.

There have been some significant milestones in relation to the project to co-locate the NMH to the Elm Park Campus. The government approved the business case which allowed for the tender and appointment of contractors for the enabling works. These contractors are now onsite in Elm Park ensuring that the site is prepared for the main contractor. The tender for the main contract should issue early in 2024. We continue to engage with HSE Estates, St Vincent's University Hospital (SVUH) and the entire project team to deliver this much needed infrastructure.

Whilst the project continues, it will still be many years before the new Hospital opens on the Elm Park site and the many infrastructural difficulties identified in the past two decades on the Holles Street site remain a concern. During 2023 we have dealt with some significant electrical issues and also improved the stairs and flooring in some of the more critical areas. Apart from the maintenance of the aging infrastructure, the growing need for additional space is a major concern. In 2013, it was clearly identified that the current site was deficient in terms of space and since that time the services have continued to expand. We have a number of urgent projects that we hope will be progressed in the next few months to provide the resources required for our staff and patients to continue to deliver essential services to women and neonates.

> "I SIT IN ON INTERVIEWS FOR CONSULTANT POSITIONS. BOTH THE NUMBER AND QUALITY OF PEOPLE WE ATTRACT IS A TESTAMENT TO THE EXCELLENT REPUTATION OF NMH. THIS AUGURS WELL FOR THE FUTURE OF NMH AS ALL THESE EXCELLENT NEW HIRES WILL ADD SIGNIFICANTLY TO THE EXISTING EXCELLENT TEAM".

The introduction of the public only consultant contract in March 2023 has implications for the NMH, our staff and our patients. This is particularly in the obstetrics speciality as there is no Hospital in Ireland that offers private inpatient obstetrics which means that in a few years this will likely no longer be an option for patients.

The Research and Innovation Symposium Exhibition (RISE) symposium continues to an enormous success with many staff and Departments participating each year. This day helps to showcase the amazing work of the Hospital and the breadth and depth of motivated and talented staff that are part of the Hospital. Once again I would like to commend Prof Fionnuala McAuliffe and all the team involved for this amazing initiative.

In recognition of the ongoing learning and development needs, the Hospital has appointed a Training and Development Officer as a two year initiative to help develop, co-ordinate, focus and record the various training and development needs of the staff and to enhance and develop training opportunities.

There were three Health Information and Quality Authority (HIQA) led inspections during the year; one in relation to HIQA standards, one in relation to Children First and one in relation to Radiography. The reports from all of these were mainly positive, with some relatively minor operational areas for improvement but with infrastructure a notable issue. All of the reports were very complimentary of the NMH staff and their commitment.

I am pleased to report that our Catering Team have once again managed to maintain their own very high standards and during the year received a number of awards including obtaining a score of 100% in the FSPA audit.

As ever our major resource is our staff. This year was again a difficult one for recruitment of many categories of staff including midwifery and nursing, sonographers, medical laboratory scientists and many other groups. There is continuing anecdotal evidence of the newly qualified staff leaving for other

Pat McCann, Deputy Chairman, NMH Executive Management Team, Mary Brosnan, Director of Midwifery and Nursing, Ronan Gavin, Secretary General Manager and Prof Shane Higgins, Master.

> "IN RECOGNITION OF THE ONGOING LEARNING AND DEVELOPMENT NEEDS, THE HOSPITAL HAS APPOINTED A TRAINING AND DEVELOPMENT OFFICER AS A TWO YEAR INITIATIVE TO HELP DEVELOP, CO-ORDINATE, FOCUS AND RECORD THE VARIOUS TRAINING AND DEVELOPMENT NEEDS OF THE STAFF AND TO ENHANCE AND DEVELOP TRAINING OPPORTUNITIES".

countries where the financial rewards and overall quality of life appears more attractive. There is also the issue of staff moving out of Dublin due to the many factors with the primary focus around accommodation and transport. These issue have been raised by the NMH and many other Hospitals but there does not appear to be any quick solutions. The HSE embargo imposed in the latter half of the year has also proved problematic, though the Executive Committee has been very aware of the potential risks and service needs where staff replacements are necessitated.

The hospitals Executive Committee and the sub committees have engaged in significant work during the year. One major focus was a review, undertaken by Mr Bob Semple, of how our committees and structures operate and this involved a workshop for Executive Committee members in late November. Bob will present his detailed findings and recommendations to the full Executive in early 2024.

I am honoured to play a small part in this amazing institution. I really enjoy the time I spend in NMH. I am blessed with a wonderful and engaged Board who also work really hard on the committees required. We are very conscious of our responsibilities as Board members and the need for vigilance on corporate governance. We are well supported in this by a strong executive team led by Professor Shane Higgins. A big thank you to all for their involvement in NMH. We have lots of to do in 2024 and no doubt face many challenges

Pat McCann, Deputy Chairman.

Master's Report

Prof Shane Higgins, Master.

It is a great privilege to introduce the combined Corporate and Clinical Reports for the year 2023.

My sincere thanks to Mr Pat McCann, Deputy Chair, for giving so freely of your time to myself, the Executive Management Team and the Hospital. Pat's investment in the Hospital is clear for all to see and his contribution to Hospital life reflects a clear understanding of the services we provide and wish to provide to our patients.

My thanks to Ms Michele Connolly, Honorary Treasurer, Mr William Johnston, Honorary Secretary and all members of the Executive Board for giving so freely of their time, expertise, knowledge and advice during the year.

I owe an enormous debt of gratitude to the Executive Management Team of Ms Mary Brosnan, Director of Midwifery and Nursing, Mr Ronan Gavin, Secretary General Manager, Dr Roger McMorrow, Clinical Director and Mr Alistair Holland, Financial Controller for their continued support and commitment to the Hospital during another extraordinary year.

The National Maternity Hospital was established at its current location in 1894 and received a Royal Charter, in line with the other Maternity Hospitals in Dublin, in 1903. There are many memorable moments in its history from Elizabeth O'Farrell, a member of Cumann na mBan, who served as a midwife, training and working in the Hospital in the early years of the 20th century before carrying the white flag delivering the surrender at the Easter Rising in 1916. This Hospital became the first to benefit from the Irish Hospitals' Sweepstake which funded extensive redevelopment in the 1930s. Antrim House, the former home of the Earl of Antrim on Merrion Square, was demolished to facilitate the expansion of the Hospital in 1936.

The Linen Guild is a discretionary charity founded in 1912, some 18 years after the Hospital was founded at its current location, whose mission was and remains to support vulnerable mothers and babies attending the NMH at a time when they are facing very difficult circumstances and have nowhere else to turn. The members of the Linen Guild devoted their time and efforts so that no baby would leave the Hospital

without a suitable nightdress, woollen jacket, nappies and a warm Foxford blanket. To complete this task, the members would meet in the Hospital to cut, sew, and make up these garments. The current day Linen Guild now devotes its resources towards raising much needed funds. The committee meet on a monthly basis with the staff of the Medical Social Work Department to distribute funds to women and their families in need of financial and material assistance. In 2023, the Social Work Department received almost 1,200 referrals to its service and €44,429 in funding for patients from the Linen Guild.

A new Inclusion Health service targeting patients who are homeless or at risk of homelessness, refugees and those seeking international protection and all of whom have difficulty accessing health services has been established by the Medical Social Work Department.

Like many Hospitals in Ireland, The National Maternity Hospital has an established Charitable Foundation whose sole purpose is to raise funds for the advancement of women's and neonatal health. As well as providing practical help across the Hospital, The NMH Foundation is the vehicle through which we can establish corporate and community partnerships to fund innovation and research to meet our ambition to be the centre of excellence for women and babies in Ireland. We want to work with companies, philanthropies and social innovators who can help us achieve our goals and ambitions. My thanks to the NMH Foundation Board under the leadership of Mary Rose Burke who give their time and expertise willingly and voluntarily to ensure that the Foundation is prudent and wise in its grant awarding and that it fulfils its charitable purpose.

We are all fully aware of the special place this Hospital holds on its current site and with its current infrastructural constraints in the hearts of our patient population and has done so since 1894, but it remains the case that by the end of this decade the newest buildings on the site will be nearly one hundred years old and never has the requirement for a new National Maternity Hospital to serve the needs of women and their babies been greater. We must press on and complete the planned relocation to the St. Vincent's University Hospital campus at Elm Park. More progress on the project has been made during 2023 with the Final Business Case for the new Hospital approved by Cabinet allowing for the enabling works to begin at Elm Park and once completed facilitating the commencement of the main Hospital build.

> "LIKE MANY HOSPITALS IN IRELAND, THE NATIONAL MATERNITY HOSPITAL HAS AN ESTABLISHED CHARITABLE FOUNDATION WHOSE SOLE PURPOSE IS TO RAISE FUNDS FOR THE ADVANCEMENT OF WOMEN'S AND NEONATAL HEALTH. AS WELL AS PROVIDING PRACTICAL HELP ACROSS THE HOSPITAL".

As ever we continue to seek Capital investment in the current site. Two projects have been approved and are in the design stages of development, a new ambulatory gynaecology suite and a new patient transport lift. Funding for two further developments is still sought, a new perinatal pathology and bereavement suite and a clinical central decontamination unit.

2023 was the first full year in the Hospital since the Covid-19 pandemic year and although we lost two and a half years to many things we were able to reassess our values and appreciate many of the simple and positive things in life. As a Hospital we demonstrated our strong culture and collegiality, our ability to adapt and look after our staff and patients while continuing to provide and expand our services.

Nonetheless, we were happy in 2023 to see activity return to near normal levels with a minimal residual impact of Covid-19 visible. Visiting returned to near pre pandemic levels with only time restrictions in place for the benefit of patients.

In 2023 we delivered 6,880 babies during the year, weighing >500g or ≥24 weeks' gestational age, a 0.7% decrease over the previous year. Our busiest month was October with 639 births, our quietest month was February with 463 births. On our busiest day we delivered 32 babies and on our quietest day we only delivered 3. Our caesarean section rate was 36.1%, continuing to rise yet we have one of the lowest rates in the country. There were 1,202 admissions to our neonatal unit, 34 of whom were outborn. Our fetal medicine unit undertook >24,000 scans. There were 5,966 surgical procedures, 2,437 of which were caesarean sections with the remainder gynaecological.

The Hospital has become much more than just a maternity unit over the past number of years with the development of many new services and with others expanding. A new public infertility service has been established and is now identifying couples suitable for publically funded IVF cycles. Our newly established Perinatal Genetics Service now provides a service to the six fetal medicine units around the country and we have the only perinatal clinical geneticist in the state employed here. We have added to the team by appointing a principle genetics counsellor and provide a service across the areas of recurrent pregnancy loss, infertility and fetal medicine. Our Placenta Accreta Spectrum Service has now been funded to provide a national multidisciplinary meeting to advise on case management. Our Ambulatory Gynaecology service is growing exponentially with over 2,000 Outpatient Hysteroscopy procedures undertaken and with national key performance indicators met last year. We continue to provide a service to patients suffering from MESH complications, and a Complex Menopause Service.

2024 will see the 25th Anniversary of the establishment of the Community Midwifery Service at The National Maternity Hospital. There are plans to celebrate this milestone in April in Killruddery House. The community midwives provide a home birth service, Domino care and an early transfer home programme for our patients. May I take this opportunity to congratulate the team on reaching this milestone.

> “THE NMH HAS BUILT UP A REPUTATION FOR UNDERGRADUATE AND POSTGRADUATE TRAINING AND ATTRACTS A NUMBER OF OVERSEAS FELLOWS AND VISITING CONSULTANTS TO VISIT THE HOSPITAL AND OBSERVE OUR LABOUR AND BIRTHING UNIT PRACTICES”.

Other notable achievements include national awards for the newly established Iris clinic for patients suffering from hyperemesis and the TLC clinic for patients suffering from recurrent miscarriage. Congratulations to our Catering team for achieving 100% in the recent FSPA inspection, a Gold Award certification from the Irish heart foundation for healthy catering practices and nominated as finalists in the Irish Hotels and Catering Gold medal awards, the only in-house Catering Department to reach the finals.

The NMH has built up a reputation for undergraduate and postgraduate training and attracts a number of overseas fellows and visiting consultants to visit the Hospital and observe our Labour and Birthing Unit practices. The Hospital also educates undergraduate and postgraduate midwives. There is a very extensive professional development programme for midwives and nurses within the Hospital. An annual higher diploma programme in Neonatal Nursing Studies is facilitated in conjunction with the two other Dublin Maternity Hospitals and the Royal College of Surgeons Ireland (RCSI). Our Academic Departments continue to achieve excellence in both medical and midwifery publications, research and teaching. The RISE symposium goes from strength to strength with in house teams competing for the annual Declan Meagher and Colm O'Herlihy innovation and research medals.

The NMH is part of the Ireland East Hospital Group (IEHG) which comprises 11 hospitals in total. The IEHG is Ireland's largest hospital group serving 1.1 million people, with University College Dublin(UCD) as its main academic partner. There are 3 other maternity units within the IEHG: Midland Regional Hospital Mullingar, St. Luke's General Hospital Kilkenny and Wexford General Hospital. There is significant inter-linking of services between the NMH and other hospitals including St. Vincent's University Hospital, Temple Street Children's University Hospital, Our Lady's Hospital for Sick Children, Crumlin, and Mater University Hospital.

In March of 2023 the government introduced the Sláintecare public only consultant contract. Since then all consultants appointed to new positions will only be able to undertake public work in public hospitals. Over a period of time this will result in the removal of a patients' ability to choose her obstetrician, one of the cornerstones of another government policy document, the maternity strategy.

With the cost of accommodation continuing to rise in Dublin, many of our midwifery and nursing staff must commute long distances to work at the hospital. This is inevitably resulting in problems retaining staff who are choosing to relocate to hospitals or GP practices closer to home. This retention problem will continue to worsen until measures are taken at government level to assist staff with accommodation costs. The Hospital has rented three houses on a main bus corridor to assist those staff relocating to Ireland with their accommodation needs for a three-month period.

My thanks to all staff for their continued selfless dedication to the patients of The National Maternity Hospital; I am extremely thankful for your commitment and proud of you all.

Prof Shane Higgins,
Master.

Honorary Treasurer's Report

The financial results for the Hospital for 2023 reflected an overall surplus of €1.25m.

Income for the Hospital comes from two primary sources. Funding from HSE amounted to €92.7m for the year which was 88% of overall income. HSE income is up 10% on prior year reflecting an increased volume of services and specialties that the Hospital now delivers. This includes a new genetics function and a new fertility service. This will be dealt with more comprehensively elsewhere in the Annual Report but the breadth and complexity of services provided by NMH continues to increase year on year and is often underestimated. The balance of funding primarily comes from services provided to private and semi-private patients. This amounted to €12.1m for 2023 which was an 8% increase on prior year and marginally ahead of budget reflecting increased efforts in raising awareness of the semi-private clinic in particular to those in specialty and satellite clinics.

Total costs incurred were €103.6m. Of this €83.7m related to Pay and €19.8m to Non Pay expenditure. As with previous years the cost base of the Hospital remains largely fixed with staff costs accounting for 81% of hospital spend. The other major elements of non-pay costs relate to medicine, pathology costs, medical supplies, catering, energy and maintenance costs. Costs over the year were marginally ahead of budget largely as a result of the advent of costs of Sláintecare Public Only Consultants Contract 2023 and higher than expected pension costs. Additional non pay cost increases included higher inflation and new projects around cyber security and equipment upgrades. Staffing remains a challenge for the Hospital in particular the cost of accommodation. The Hospital is looking at all possible avenues to try and support staff with this issue.

Whilst the Hospital awaits its move to NMH @ Elm Park, it continues to provide excellent care in an aging building. The move is still some years away. The current building does need continual maintenance but also investment in the intervening period. Discussions are ongoing with HSE in relation to funding of additional essential upgrade works. Approval for any new capital projects or essential upgrades is long and protracted. The Hospital is still awaiting reimbursement from HSE for costs it incurred in funding the now operational Labour Delivery Unit and Theatre capital works.

The funding model from the HSE remains a challenge. At the time of going to print, the financial statements have been finalised but are still subject to final review by the auditors although this is not expected to change the results. The delay in finalisation arose this year due to the late confirmation of final funding for 2023 from the HSE. There are considerable delays in approval for any new funding – capital or revenue and the revenue allocation for a given year is never fully confirmed until several months post the year end. This is totally sub optimal from a financial planning and cash management perspective. The Hospital is managing this by seeking advance drawdown of its revenue allocation from the HSE on an ongoing basis but that is a short term solution to a longer term issue.

> "OTHER AREAS OF FOCUS BY THE FINANCE COMMITTEE DURING 2023 INCLUDED NMH @ ELM PARK, GOVERNANCE, PROCUREMENT, IMPACT OF SLÁINTECARE, POLICIES AND PROCEDURES, MANAGEMENT OF DEBTORS, COMPLIANCE, ACTIVITY BASED BUDGETING, NEW SERVICES AND STATEMENT OF RECOMMENDED PRACTICE (SORP) ACCOUNTING".

Other areas of focus by the Finance Committee during 2023 included NMH @ Elm Park, governance, procurement, impact of Sláintecare, policies and procedures, management of debtors, compliance, activity based budgeting, new services and Statement of Recommended Practice (SORP) accounting.

I would like to extend my appreciation to all the NMH finance team and my fellow members of the Finance Committee. The NMH finance team have successfully exercised strong financial control whilst concentrating on essential spend to ensure we can continue to deliver excellent care to the patients.

After 8 years as Honorary Treasurer, I will hand over the role at the next AGM 2024. It's been a tremendous privilege to serve as Treasurer and I wish the Master and the team every success into the future. I look forward to the opening of NMH @ Elm Park. The NMH is an organisation I have been proud to be a part of.

Michele Connolly, Honorary Treasurer.

Executive Committee Report

Aishling Kinsella (centre) recipient of the A Edward Smith medal which is a voluntary written and clinical examination award only awarded when merited. Aishing is pictured with her parents Kevin and Valerie Kinsella, Assistant Director of Midwifery and Nursing.

Executive Committee (The Board)

At the first Board meeting following the 2023 AGM, Mr Pat McCann was re-elected unanimously as Deputy Chair – effectively the Chair of the Hospital.

We welcome to the Board Cllr. Daithí de Róiste who was elected Lord Mayor in June 2023. We would like to thank his predecessor former Lord Mayor, Cllr. Caroline Conroy, for her interest in the Hospital.

Two Board members resigned during the year: Ms Gráinne Hennessy resigned from the Board, and as a Governor in May. Gráinne was elected a Governor in December 2019 and was a valued member of the Board. She was also a member of the Finance, Co-Location, Medical Fund and the People & Organisation Committees. We thank her for her very significant contribution to the Hospital.

In June 2023, Mr Stephen Vernon resigned from the Board and as Chair of the Co-Location Committee. We are eternally grateful for Mr Vernon's contribution to the Hospital not only as a Board member and very effective Chair of the Co-Location Committee but also for his significant donation to the Hospital. The donation enabled the Hospital to be the first maternity hospital/unit in the State to acquire an MRI scanner enabling the establishment of the National Fetal MRI Service which, as of May 2022, is an all island service.

Board Work

The work of the Co-Location Committee continued during the year. In July, the Hospital welcomed the announcement by the Minster for Health, Stephen Donnelly TD, of Government approval to go to tender for the construction of the new National Maternity Hospital co-location to the Elm Park Campus. The Hospital is looking forward to working with St. Vincent's University Hospital, the HSE and the Department of Health to progress this essential new facility. A meeting of the Governors took place in October to appraise them on developments on the move to Elm Park. To enhance the understanding of, and thus contributions by Board members, there have been several presentations to the Board during the year: In January, the People and Organisation Committee gave a presentation on the Committee's objectives for 2023, in February and November, 'Hospital of Choice' was presented by the Director of Midwifery & Nursing, Ms Mary Brosnan, in March Online Booking System by Mr Emmet Travers, in July the Social Work Department by Ms Laura Harrington, in September, Goal 5 of the Strategic Plan by the Master, Prof Shane Higgins and also the Business Continuity Plan by Mr Damian McKeown and in November, Communications Strategy, by Ms Sophie MacNeice and DHR Communications.

At each monthly meeting of the Board, reports from members of the Executive Management Team (the EMT) are discussed and where considered appropriate, further

direction is given by the Board to the EMT. Clinical aspects of these reports are covered elsewhere in the Annual Report. An issue which is continually brought to the attention of the Board is the cost of living and accommodation in Dublin. This impacts directly on recruiting and retaining midwives. The cost of living outside Dublin is considerably lower and qualifying midwives regularly relocate to hospitals in the State outside Dublin. This phenomenon poses considerable challenges to the Hospital. In light of that, the Hospital has acquired and made available rental accommodation for the first six months' post arrival or post qualification for new midwives'. Over 40 overseas staff were recruited for midwifery, the neonatal unit and operating theatres requiring various periods of orientation.

Corporate Governance

The Byelaws and Corporate Governance Code were reviewed and updated. In accordance with good governance, the Board commenced an external review of governance. As part of that review, a workshop was held in November with the review and report to be finalised in 2024.

The Board met on eleven occasions in 2023 and attendances were as follows:

His Grace the Catholic Archbishop of Dublin does not attend the meetings.

Members of Executive Committee	Meetings Attended	Meetings Appointed to Attend
Mr Pat McCann, Deputy Chair	10	11
Mr William Johnston, Honorary Secretary	11	11
Ms Michele Connolly, Honorary Treasurer	8	11
Prof Shane Higgins, Master	10	11
Ms Ingrid Browne	8	11
Ms Mairéad Butler	8	11
Ms Sarah Claxton	8	11
Ms Denise Cole	7	11
Fr Enda Cunningham	9	11
Mr Aidan Devlin	8	11
Mr Frank Downey	5	11
Cllr. James Geoghegan	5	11
Ms Gráinne Hennessy *(to May)*	3	4
Prof Declan Keane	8	11
Ms Carmel Logan	9	11
The Lord Mayor, Cllr. Caroline Conroy, *(to June)*	0	5
The Lord Mayor, Cllr. Daithí de Róiste, *(from June)*	0	6
Dr John Murphy	6	11
Mr Tom Murphy	8	11
Prof Fionnuala McAuliffe	9	11
Ms Jane McCluskey	7	11
Dr Roger McMorrow	10	11
Prof Peter McParland	6	11
Cllr. Cat O'Driscoll	6	11
Cllr. Naoise Ó Muirí	9	11
Ms Patricia O'Shea	9	11
Ms Nóirín O'Sullivan	8	11
Dr Michael Robson	5	11
Mr Stephen Vernon *(to June)*	3	5
Prof Jennifer Walsh	7	11
In Attendance		
Mr Ronan Gavin, Secretary/General Manager	10	11
Ms Mary Brosnan, DOM&N	11	11
Mr Alistair Holland, Financial Controller	9	11
Mr Francis Rogers, Management Accountant	1	1
Mr Damian McKeown, Project Co-Ordinator, NMH @ Elm Park (part of)	1	1
Mr Emmet Travers, Chief Assistant Technical Services Officer (part of)	1	1
Ms Laura Harrington, Head Medical Social Worker (part of)	1	1
Ms Sophie MacNeice, Communications Officer (part of)	1	1
External Attendees		
Mr Bob Semple, Governance Consultant	3	3
Ms Patricia Ryan, Managing Director, DHR Communications	1	1

Dr Emma Dunne, Neonatology Fellow and 2023 recipient of the Colm O'Herlihy Research Medal awarded for Research and Innovation, Dr Caitríona Ní Chathasaigh, Neonatal Fellow and Dr Eoin Ó Currain, Consultant Neonatologist at Charter Day.

Governors

At the AGM, two Governors, whose seven-year terms expire prior to the next AGM and who offered themselves for re-election, were reelected as Governors: Ms Aoife O'Connor and Ms Mairéad Butler.

Following the recommendation of the Nominations Committee, the following persons were elected as Governors of the Hospital at the AGM: Ms Bernadette Campion and Ms Cecilia Barker.

The election of Ms Carmel Logan and Mr Tom Murphy as Governors by the Executive Committee in September 2022 was ratified at the AGM.

SUB COMMITTEES OF THE BOARD

Finance Committee

As can be seen from the Financial Report summarised on page 215 the Hospital closed the year with a surplus of €1.25m. Further detailed commentary on the finances are provided in the Honorary Treasurer's Report, page 11.

The Committee met on eleven occasions during 2023 and attendances were as follows:

Members of Finance Committee	Meetings Attended	Meetings Appointed to Attend
Mr Pat McCann, Deputy Chair	10	11
Mr William Johnston, Honorary Secretary	11	11
Ms Michele Connolly, Honorary Treasurer	9	11
Prof Shane Higgins, Master	10	11
Ms Denise Cole	10	11
Ms Carmel Logan	10	11
Mr Tom Murphy	9	11
In Attendance		
Mr Ronan Gavin, Secretary/General Manager	11	11
Ms Mary Brosnan, DOM&N	10	11
Mr Alistair Holland, Financial Controller	9	11

Audit Committee

The Audit Committee continued its work throughout the year and a separate report on the work of the Committee is provided on page 25.

The Committee met seven times during 2023 and attendances were as follows:

Members of Audit Committee	Meetings Attended	Meetings Appointed to Attend
Mr Aidan Devlin, Chair	7	7
Ms Michele Connolly, Honorary Treasurer	5	7
Ms Mairéad Butler	4	7
Mr Frank Downey	3	7
Mr Tom Murphy *(from May)*	4	4
Cllr. Naoise Ó Muirí	6	7
In Attendance		
Mr Ronan Gavin, Secretary/General Manager	6	7
Mr Alistair Holland, Financial Controller	7	7
Ms Ann Rath, ADOM&N *(to April)*	1	1
Mr Eoghan Hayden *(from May)*	2	4
Mr Carl Alfvag, Compliance & Operations Manager	2	2
Mr Con Grimes, IT Manager	1	1
External Attendees		
Mr Alan Davidson, Crowe	5	5
Mr David Leetch, Crowe	2	2
Ms Carron Heffernan, Risk Consultant, Crowe	2	2
Mr Andrea Shupinski, (SORP Consultant)	1	1
Mr Richard Sammond, PWC	2	2
Mr Fernando Angelo, PWC	1	1
Mr Cameron Kasavan, PWC	1	1

QRPS Committee

The QRPS (Quality, Risk & Patient Safety) Committee continued its work throughout the year and a separate report on the work of the Committee is provided on page 26.

The QRPS Committee met on five occasions in 2023 and attendances were as follows:

Members of QRPS Committee	Meetings Attended	Meetings Appointed to Attend
Ms Mairéad Butler, Chair	4	5
Dr Ingrid Browne	5	5
Mr Aidan Devlin	5	5
Prof. Declan Keane	4	5
Ms Carmel Logan *(from May)*	2	3
Prof. Fionnuala McAuliffe	4	5
Ms Jane McCluskey	3	5
Mr Bernard McLoughlin	5	5
Dr Roger McMorrow	3	5
Cllr. Naoise Ó Muirí	5	5
Ms Patricia O'Shea	4	5
In Attendance		
Ms Mary Connolly, AON	5	5
Mr Ronan Gavin, Secretary/General Manager	5	5
Dr Anne Twomey, Director of QRPS	5	5
Mr Carl Alfvag, Compliance & Operations Manager	4	5
Mr Martin Creagh, H&S Manager	4	5

Co-Location Committee

The Co-Location Committee continued its work throughout the year and a separate report on the work of the Committee is provided on page 27.

The Committee met on three occasions during 2023 and attendances were as follows:

Members of Co-Location Committee	Meetings Attended	Meetings Appointed to Attend
Mr Pat McCann, Deputy Chairman *(Chair)*	3	3
Ms Michele Connolly, Honorary Treasurer	1	3
Ms Sarah Claxton	3	3
Ms Gráinne Hennessy *(to May)*	2	3
Dr Roger McMorrow	2	3
In Attendance		
Prof. Shane Higgins, Master	2	3
Dr Orla Sheil, Consultant Obs/ Gynae	3	3
Mr Ronan Gavin, Secretary/General Manager	3	3
Mr Aidan Devlin (Observer)	1	1
External Attendees		
Ms Alice Murphy, MHC	1	1
Ms Audrey Hannon, MHC	1	1

Nominations Committee

The Nominations Committee provides the Board with recommendations in relation to the appointment of Governors and the appointment of members of the Executive Committee and other committees provided for under the Charter and Bye-laws and Regulations in line with succession planning and criteria.

The Nominations Committee met on two occasions during 2023 and attendances were as follows:

Members of Nominations Committee	Meetings Attended	Meetings Appointed to Attend
Mr Pat McCann, Deputy Chairman	2	2
Mr William Johnston, Honorary Secretary	2	2
Ms Michele Connolly, Honorary Treasurer	0	2
Prof Shane Higgins, Master	1	2
Ms Mairéad Butler	2	2
Ms Denise Cole	1	2
Mr Aidan Devlin	2	2
Prof. Declan Keane	1	2
Dr John Murphy	0	2
Ms Paula Reid	0	2
In Attendance		
Mr Ronan Gavin, Secretary/General Manager	2	2

Medical Fund Committee

This Committee, which receives funds from the Fitzwilliam Clinic (semi-private clinic (SPC), provides funding principally for education and research relating to the medical services provided by the Hospital. A separate report on the work of the Committee is provided on page 28.

The Medical Fund Committee met on six occasions during 2023 and attendances were as follows:

Members of Medical Fund Committee	Meetings Attended	Meetings Appointed to Attend
Ms Catherine Altman, Chair	5	5
Ms Sara Appleby	3	5
Ms Cecilia Barker *(from May)*	3	3
Ms Louise Bennett	5	3
Ms Bernadette Campion *(from May)*	2	3
Ms Sheena Carton	5	5
Ms Jane Collins	3	5
Ms Fiona Davy	3	5
Ms Elaine Doyle	5	5
Ms Lydia Ensor *(to Sept)*	0	3
Ms Kate Higgins	4	5
Ms Margaret McCourt	2	5
Ms Anne Murphy	5	5
Ms Teresa Murphy	3	5
Ms Suzanne O'Brien	4	5
Ms Kathleen O'Grady *(to Dec)*	3	5
Ms Aoife O'Shea	3	5
In Attendance		
Prof.Shane Higgins, Master	1	1
Ms Mary Brosnan, DOM&N	5	5
Mr Mark Anderson, Hygiene Services Manager	5	5
Mr Calin Buie, Housekeeping Services Supervisor	2	2

Executive Ethics Committee

The Executive Ethics Committee met once during the year to review the terms of reference, the Committee's effectiveness/self-assessment and review the succession/skill mix.

The members of the Executive Ethics Committee are: Dr John Murphy, Chair, Prof Shane Higgins, Master, Ms Catherine Altman, Dr Ingrid Browne, Ms Denise Cole, Ms Caroline Devlin, Mr Frank Downey, Dr Paul Downey, Ms Jane McCluskey and Cllr. Naoise Ó Muirí.

House Committee

The Committee, which is one of the longest serving the Hospital, assists in ensuring that the Hospital's infection control strategies are effective. The work of the Committee involves carrying out on-site inspections of various areas in the Hospital. The Committee continued its work throughout the year and a separate report is provided on page 29.

The Committee met on five occasions during 2023 and attendances were as follows:

Members of House Committee	Meetings Attended	Meetings Appointed to Attend
Ms Catherine Altman, Chair	5	5
Ms Sara Appleby	3	5
Ms Cecilia Barker *(from May)*	3	3
Ms Louise Bennett	5	3
Ms Bernadette Campion *(from May)*	2	3
Ms Sheena Carton	5	5
Ms Jane Collins	3	5
Ms Fiona Davy	3	5
Ms Elaine Doyle	5	5
Ms Lydia Ensor *(to Sept)*	0	3
Ms Kate Higgins	4	5
Ms Margaret McCourt	2	5
Ms Anne Murphy	5	5
Ms Teresa Murphy	3	5
Ms Suzanne O'Brien	4	5
Ms Kathleen O'Grady *(to Dec)*	3	5
Ms Aoife O'Shea	3	5
In Attendance		
Prof.Shane Higgins, Master	1	1
Ms Mary Brosnan, DOM&N	5	5
Mr Mark Anderson, Hygiene Services Manager	5	5
Mr Calin Buie, Housekeeping Services Supervisor	2	2

People & Organisation Committee

The People and Organisation Committee was established in May 2022. It provides oversight of the Human Resources (HR) function and HR policies within the NMH.

The Committee met on eight occasions during 2023 and attendances were as follows:

Members of People & Organisation Committee	Meetings Attended	Meetings Appointed to Attend
Ms Denise Cole, Chair	8	8
Ms Sarah Claxton	7	8
Ms Gráinne Hennessy *(to May)*	2	3
Mr George Maybury	7	8
Ms Patricia Nolan	6	8
Ms Nóirín O'Sullivan	5	8
In Attendance		
Mr Ronan Gavin, Secretary/General Manager	7	8
Ms Mary Brosnan, DOM&N	7	8
Ms Yvonne Connolly, HR Manager	7	8
Ms Caoimhe de Brun, Assistant HR Manager	8	8

Maternity Hospitals Joint Standing Committee

The Committee of the three Dublin Maternity Hospitals meets monthly to discuss issues of common interest and concern. During 2023 the Committee, under the Chairmanship of Dr Don Thornhill, continued to meet to discuss issues of common concern. The main issues were midwifery recruitment issues, transfer of governance of SECMs (self-employed community midwives) to the Hospital Groups, public fertility programmes, homebirth services, genetics services, homeless mothers and Sláintecare contracts.

Regular meetings with NWIHP now form part of the Committee's programme. The Committee has agreed to meet bi-monthly for 2024.

Charter Day

The annual Charter Day reception was hosted by the Master, Prof. Shane Higgins and his wife, Mrs Kate Higgins to whom we are most grateful. The event, which was held on 26th January 2023, was the first Charter Day reception held since the COVID-19 pandemic restrictions were imposed and we were very pleased to welcome everyone back in-person to the Boardroom.

The Master delivered an inspiring address to the Governors, guests, staff, prize-winners and their families.

The 66th Annual Charter Day Lecture was held via webinar and in the Lecture Theatre on Friday, 27th January 2023. The Lecture entitled "The Importance of Genetics" was delivered by Prof. Michael A. Patton, Consultant Clinical Geneticist, Consultant Geneticist HSL Pathology Emeritus Professor of Medical Genetics, St. Georges University of London, Hon. Professor of Medical Genetics University of Exeter, Hon. Professor of Medical Genetics University College London, Hon. Fellow, Green Templeton College, Oxford.

A Symposium entitled "Perinatal Genetics & Genomics" was held as part of the Charter Day celebrations. The symposium was organised by Dr Sam Doyle, Consultant Clinical Geneticist, and was Chaired by the Master, Prof Shane Higgins and the following lectures were delivered.

"Pre-implantation Genetic Testing"
Prof Cathy Allen, Consultant Obstetrician/Gynaecologist, NMH & Merrion Fertility Clinic.

"A Fetal Medicine Perspective"
Prof Jennifer Walsh, Consultant Obstetrician/Gynaecologist, NMH.

"Evolution of Recurring Miscarriage Clinic: An MDT Approach"
Dr Tara Rigney, Fellow in Perinatal Genomic, NMH and Ms Sarah Cullen, Clinical Midwife Specialist in Bereavement, NMH.

"Advances in Prenatal Genomic Testing"
Dr Stephanie Allen, Consultant Clinical Scientist in Central & South Genomic Laboratory Hub at Birmingham Women's Hospital.

"Perinatal Genetics & Genomics Integrated into a Maternity Setting"
Dr Sam Doyle, Consultant Clinical Geneticist, NMH.

"The Patient Perspective of Receiving a FFA Diagnosis"
Ms Alison Lynch, Co-chair of LMC Bereavement Support.

Hospital Awards & Certificates

Awards for 2023 examinations are as follows:

Medical Students

John F. Cunningham Medal	Dr Sadhbh McCarthy
RCSI/NMH Medal	Elena Teevan
Kieran O'Driscoll Prize	Emma Lyons
A. Edward Smith Medal	Aishling Kinsella

Student Midwives

Hospital Gold Medal	Tegan Kavanagh (BSc)
Elizabeth O'Farrell Medal	Karen Nevin (BSc)
Neonatal Medal *established by Dr Niall O'Brien*	Paula Cashin

Director of Midwifery Award: Sarah Belton, ANP Gynae Oncology In recognition of being the first registered Advanced Nurse Practitioner in Gynae Oncology, and on being awarded a Fellow of the RCSI for her experience in gynae oncology. Sarah has led an international gynae oncology nursing collaborative to develop the first gynae oncology education curriculum for nurses in low and middle income countries presented in Korea in November 2023.

Colm O'Herlihy Medal: Dr Emma Dunne
Awarded for Research and Innovation. Emma's Research undertook "A randomized trial of umbilical or peripheral catheter insertion for preterm infants on admission to the NICU"

Declan Meagher Medal: Teo Stetco
Awarded for Innovation. The medal was awarded for his project on "Paperless system for Catering Department ordering system and processing order for the kitchen."

We congratulate each of them and wish them every success in their future careers.

HSE Spark Innovation Award

The Hospital's Antenatal Team were awarded the Best National Nursing and Midwifery Innovation award at the 2023 HSE National Innovation Conference for their work in setting up the IRIS clinic which is Ireland's first dedicated clinic for women with morning sickness.

Research and Innovation Symposium Exhibition – (RISE)

The RISE event took place on 24th February 2023. Twenty-four staff members from across the Hospital Departments made oral & poster presentations of both research and innovation projects, on a wide range of subjects to improve patient care, training and staff experiences all over the Hospital.

Sarah Belton, ANP Gynae Oncology, recipient of the Director of Midwifery Award with her husband Darren Belton and Mary Brosnan, Director of Midwifery & Nursing.

Appointments, Promotions, Retirements and Deaths

New appointments in 2023 included:
Dr Catherine Hinds, Consultant General Adult Psychiatrist
Dr Ann McHugh, Consultant Obstetrician/Gynaecologist
Dr Kate Glennon, Consultant Obstetrician/Gynaecologist
Dr Maebh Horan, Consultant Obstetrician/Gynaecologist
Dr Carmel Moore, Consultant Neonatologist
Sharon Glynn, CNS Gynaecology Oncology Survivorship Specialist
Aoife Kenny, CMM 2 Lactation
Aoife Shannon, Senior Medical Social Worker
Aoife Tonge, Senior Occupational Therapist
Sophie MacNeice, Communications Officer
Sinead Whyte, Principal Genetic Counsellor
Christine Clifford, Senior Medical Scientist
Laura Kennedy, Chief Medical Scientist

Internal Promotions in 2023 included:
Claire Howlett, CMM 2 Community Midwife
Carol Pugh, ADOM&N
Amy McCoy, CMM 2 Antenatal Unit
Mairead Hughes, CNM 2 MRI
Katie Cosgrove, CMM 3 Community Services
Emily Flynn, CMM 3 Postnatal Services
Anne Beirne, CNM 2 Gynaecology Outpatients
Nicole Jackson, CMM 2 Emergency Room
Ramita Dangol, CMM 2 Neonatal Lactation
Catherine Chambers, Clinical Specialist Dietitian
Sarah Louise Killeen, Senior Dietitian
Jessica Caldeira, Senior Dietitian
Aoife Reynolds, Chief Medical Scientist (Blood Transfusion)
Aine Toher, Chief Pharmacist II (Deputy to Pharmacy Executive Manager)
Doireann Kavanagh, Senior Medical Social Worker
Karen McCormack, Senior Medical Social Worker

Long Serving Staff
We would like to congratulate Siobhan Flanagan, Administration who celebrated 40 years service with the hospital in 2023. We wish to thank Siobhan for her service over the years and wish her many more, happy years in NMH.

Staff Retirements
The following staff members retired during the year after many years of service:
45 years: Carmel Flaherty, CMM2
44 years: Ann Rath, ADOM/N
43 years: Breda Reilly, CNM 1
42 years: Michelle Quinn, CNM 1
38 years: Clare O'Dwyer, Grade VII Clinical Risk
34 years: Miriam Shanley, Grade IV Library
23 years: Niamh Meagher, CNS
22 years: Noel Shortall, Porter
21 years: Maria Pangilinan, Senior Enhanced Midwife
20 years: Ana Maria Constantino, Senior Enhanced Midwife
19 years; Angelina Morales, Senior Enhanced Midwife
18 years; Adeliza Ramirez, Staff Nurse
17 years: Dr William Reardon, Consultant Geneticist
14 years: Dr Orla Maguire, Consultant Clinical Chemist

We thank each of them for their enormous contribution during their many years of service and wish them a very happy retirement.

Deaths
We send our sincere condolences to the family, friends and colleagues of Binumol Polassery, Staff Midwife, who sadly passed away in service during 2023.

During the year a number of our retired staff died and we send our sincere condolences to their families. They include: Philip Troy, Senior Medical Scientist, Prof Michael O'Keeffe, Visiting Consultant, Ophthalmologist, Catherine Ryan, Senior Staff Nurse and Marie Fahy, HR Manager.

Conclusion
The Board are grateful to the Executive Management Team for their tireless work during the year of continuing challenges. The Master, Prof Shane Higgins, the Director of Midwifery and Nursing, Ms Mary Brosnan, the Secretary/General Manager, Mr Ronan Gavin, the Clinical Director, Dr Roger McMorrow and Mr Alistair Holland, Financial Controller and their teams, and indeed all persons who have devoted their time during the year in the Hospital, deserve our special appreciation for their unstinting and selfless dedicated work in their care of woman and babies.

Mr William Johnston, Honorary Secretary.

Ann Rath, Assistant Director of Midwifery & Nursing who retired from The NMH after over 40 years of service.

Secretary/General Manager's Report

Ronan Gavin, Secretary/General Manager with Prof Shane Higgins, Master.

During 2023, apart from the core activities in maternity, gynaecology and neonatology, we continued to expand previously introduced services and also develop new services, all within the confines of the existing site on Holles Street. Many of these services were introduced with the support of National Women and Infants Health Programme (NWIHP) and also the Ireland East Hospital Group (IEHG), and involved additional resources, primarily staffing. In recent years, fetal MRI, genetics, menopause, placenta accreta, mesh and fertility have all been introduced while areas such as dietetics, perinatal mental health and social work have expanded their services to offer additional supports to our patients.

There has been some good progress on the co-location to Elm Park with the Government approving the Business Case in June 2023 and the enabling works contractor being appointed in November. However, the existing infrastructure on the Holles Street site continues to be challenging. This is both from a capacity perspective and also from the perspective of the age of the buildings and the fundamental design which is not ideal for modern healthcare. During 2023 the failing infrastructure was again demonstrated by significant electrical issues which required urgent remedial works. Other infrastructural aspects continue to be a concern such as the lifts, heating and water systems, windows and downpipes and lack of adequate bathroom facilities. The introduction of new services and the expansion of existing services continues to exacerbate the urgent demand for additional space. A number of urgent interim onsite projects (electrical works, new patient lift and amubulatory gynae) have been approved and others continue in discussion.

Apart from expanding departments with additional staff resources, a number of departments have continued reconfiguring their working days and now offer extended service periods to patients and other Hospital departments. The introduction of virtual consultations during the COVID-19 pandemic has continued with a number of areas continuing to offer and utilise virtual appointments where appropriate.

Along with these projects there is a constant requirement to keep our Information and Communications Technology (ICT) infrastructure up to date. During 2023 the phone systems upgrade commenced as did work across our ICT and network

> "THERE HAS BEEN SOME GOOD PROGRESS ON THE CO-LOCATION TO ELM PARK WITH THE GOVERNMENT APPROVING THE BUSINESS CASE IN JUNE 2023 AND THE ENABLING WORKS CONTRACTOR BEING APPOINTED IN NOVEMBER".

infrastructure. This work is particularly important in the context of ongoing cybersecurity and a number of initiatives were undertaken during the year to enhance our cybersecurity. The ICT team also engaged with the *National Cyber Security Centre* (*NCSC*) in relation to Network & Information Systems (NIS) requirements and the introduction of NIS2 will have further implications for NMH in relation to ICT.

Another major event was the introduction of the Public Only Consultants Contract for consultants on 8th March 2023. This contract is one element of the rollout of the Sláintecare program, removing private care from publically funded hospitals. The main issue for our core patients is that they will no longer have the option/choice of private obstetrics as there are no fully private obstetric hospitals in the country. In addition, there will be a substantial fall in bed income (from private patients) over the coming years which will need to be funded by the State. The new contract also introduces other initiatives such as extended working days and weeks which will ultimately be of benefit.

The Hospital's Executive Committee (the Board) is continuously enhancing our governance processes, underpinned by our Charter and over the past decade has introduced a number of additionalcommittees and workstreams. During 2023 an external review of the overall working of the governance structures and the Executive Committee was undertaken with a workshop attended by most of the Executive taking place in November 2023. Suggestions for enhancements from this process will be agreed during 2024. The Hospital's fundamental resource is our staff and 2023 proved to be a challenging year for the NMH, like many others, in relation to recruitment and retention. This was in many groups of staff but particularly in midwifery and nursing and the allied health professional grades. The issues involved are multi factorial but there is no doubt that the costs of living in Dublin and the lack of affordable accommodation are salient factors. The Hospital has again sourced some accommodation that is available for new entrants on a short-term basis but this is not a long term solution. Unless the issues of living and working in Dublin are resolved at a national level we will continue to lose staff both internationally and to other parts of Ireland. The imposition of an embargo on certain staffing in the latter part of the year has put added strain on existing staff and services and we hope that this will be resolved early in 2024.

> "ANOTHER MAJOR EVENT WAS THE INTRODUCTION OF THE PUBLIC ONLY CONSULTANTS CONTRACT FOR CONSULTANTS ON 8TH MARCH 2023. THIS CONTRACT IS ONE ELEMENT OF THE ROLLOUT OF THE SLÁINTECARE PROGRAM, REMOVING PRIVATE CARE FROM PUBLICALLY FUNDED HOSPITALS".

During the year our patient experience surveys scored a 97% satisfactory rating which is a very positive endorsement of our services and more importantly of our staff especially when we consider the physical limitations of the building. During the year many Departments again maintained accreditation and also won awards. The Laboratory continued its accreditation to ISO 15189 standard and the Catering Department to ISO 22000:2018 standard. I would like to mention the Catering Department who again won multiple awards including a Gold Award Certification from the Irish Heart Foundation for healthy catering practices; being nominated as finalists in the Irish Hotels and Catering Gold Medals Awards and obtaining a 100% score in the FSPA Audit (Food Safety Professional Association).

Finally, I would like to thank all of the members of the Executive Committee and the various Sub Committees for their ongoing support and advice during the year. I would also like to thank the other members of the EMT, Prof Shane Higgins, Master, Ms Mary Brosnan, Director of Midwifery & Nursing, Dr Roger McMorrow, Clinical Director and Mr Alistair Holland, Financial Controller for their support and assistance and also special thanks to both Clare Gray and Pam Robinson without whom I could not function. As always, the most important part of the Hospital is our amazing staff and I thank them all for their tireless work on behalf of our patients throughout the year.

Ronan Gavin, Secretary/General Manager.

Paula Cashin, Neonatal Medal recipient with her partner David Sweeney and Mary Brosnan, Director of Midwifery & Nursing.

Director of Midwifery and Nursing Report

As we reflect on the past year, I am confident that our team can be very proud of the service we are providing and the improvements in the range of services across maternity, women's health, gynaecology and neonatal care. The commitment and dedication of all grades of staff is evident and it is what sustains us during the challenging times we are experiencing in the Health Services. Many of the chapters in this Annual Report are compiled by our senior midwives and nurses and I am very grateful for all of their input in service improvements and innovations.

Midwifery and nursing staff recruitment and retention rates are always foremost in our minds. This is because without a stable and committed workforce, the provision of high quality midwifery and nursing care is always going to be more challenging. Turnover rates continue to be higher since the COVID-19 pandemic. In the previous ten years our voluntary turnover rates were approximately 8% annually and turnover rose to 14.75% in the immediate post-pandemic year. The current rate is now 11.9%, which seems to be reflective of the national picture of higher turnover rates in the nursing and midwifery workforce. We monitor our staff turnover rates keenly and we conduct exit surveys of all staff who leave to assess whether there are any recurring issues that arise which we may have influence over.

The majority of leavers in 2023 cited the cost of living in Dublin, particularly the cost of accommodation or rent which is often deemed unaffordable. Many decide to follow the well-worn path to Australia, to travel or gain experience abroad and others have retired a little earlier. Many staff have also opted to reduce their working hours. Cost of living issues are strongly impacting on staff retention but most importantly accommodation costs and shortages have caused the biggest concerns for us. Shift working and public transport availability are also important factors that have to be considered for us in supporting staff to stay working in pressurised jobs, with unsocial hours, in a city centre location.

Education of midwives and nurses is one of our core functions as a teaching Hospital and I am delighted that this year we had 43 graduate midwives. We hosted graduation ceremonies in June for our Higher Diploma midwives and in December for our BSc graduates. Upon graduation 30 midwives returned to the Hospital to take up midwifery posts and are pursuing careers within the Hospital and community service.

In July, we were inspected by the NMBI. The inspection as part of the five yearly cycle of inspections of nursing and midwifery education facilities with our partners in UCD. I am pleased that we received very positive feedback from the assessors about the quality of the student experience and the learning environment.

During the year we have continued to expand services for maternity and women's health. We commenced the implementation of the workforce planning Birthrate Plus Acuity App in May 2023. With the data we gather, we will be in a position to compare our staffing levels in real time, with the acuity of care the women require in our organisation. I am thankful to the team who are working on this and we expect that over time, this will reflect very valuable information on how our midwifery care is being provided for women within the inpatient settings.

Communication is such an important aspect of working well within the organisation and allowing everyone, including junior staff or students to have a voice in how our teams function. Our Staff Nurse and Midwife Council meeting with junior colleagues allows me the opportunity to meet informally with junior staff very regularly and for them to raise suggestions or innovations that may improve staff or patient experiences. It has been very positively received and we continue to work together to improve our workplace and patient experience.

When a bereavement impacts our patients, it's one of the hardest times any woman and her partner and family will endure. Our midwives and nurses and wider multidisciplinary team aim to ensure that the highest standard of compassionate care is offered. We have implemented the National Bereavement Care Standards and I am grateful to our team for their professionalism and care. Our annual service of remembrance was held in October in St. Andrews Church in Westland Row, which was arranged by our Bereavement Committee. It is attended by many families touched by grief and we are privileged to be with them at this ecumenical memorial service annually.

The Joint Research Network (JRN) between The National Maternity Hospital (NMH) and University College Dublin (UCD) was established in 2007 to develop a research culture for midwives, student midwives and nurses. A number of midwifery led research projects were undertaken during 2023.

- Early Motherhood Expectations Versus Reality (EMER Study)
- The Labour Hopscotch Framework-Phase 2
- Hyperemesis Gravidarum: An evaluation of the symptoms, assessments, treatment, and support received at the National Maternity Hospital
- Affirmation card evaluation survey
- Transformational care in Diabetes evaluation
- Postnatal anaemia study and evaluating a new dedicated postnatal anaemia clinic

Findings from the research has been published in academic journals and presented at National and International conferences and in particular a delegation of our colleagues attended the International Confederation of Midwives in Bali, Indonesia, June 2023. I am very proud of the midwives and nurses who have engaged in these research projects, led by our JRN co-chairs from NMH, Lucille Sheehy and UCD, Dr Barbara Coughlan

> “EDUCATION OF MIDWIVES AND NURSES IS ONE OF OUR CORE FUNCTIONS AS A TEACHING HOSPITAL AND I AM DELIGHTED THAT THIS YEAR WE HAD 43 GRADUATE MIDWIVES. UPON GRADUATION 30 MIDWIVES RETURNED TO THE HOSPITAL TO TAKE UP MIDWIFERY POSTS AND ARE PURSUING CAREERS WITHIN THE HOSPITAL AND COMMUNITY SERVICE”.

I would like to congratulate the following on their promotions during the year, Carol Pugh, ADOM&N, Emily Flynn, CMM 3 Postnatal Services, Katie Cosgrove, CMM 3 Community Services, Claire Howlett, CMM 2 Community Services, Helen McHale, Birth Reflections Midwife, Amy McCoy , CMM 2 Antenatal Unit, Mairead Hughes, CMM2 MRI, Anne Beirne CMM2 Gynae Outpatient Department, Nicole Jackson CMM2 Emergency Room, Ramita Dangol CMM 2 Neonatal Lactation, Sharon Glynn CNS Cancer Survivorship, Aoife Kenny CMM 2 Lactation.

In 2023, many senior staff members retired from our team after many long years of service to the Hospital which was greatly appreciated by ourselves and by patients. I wish to mention and send my thanks to Ann Rath ADOM, Hilda Wall CMM3, Niamh Meagher CMS, Breda Lavin CMM1, Carmel Flaherty CMM2, Michelle Quinn CMM2, S/N Adeliza Ramirez, S/N Ana Maria Constantino and S/N Maria Eloisa Pangilinan. We wish each of them many years of good health and happiness in the future.

In July, we were informed of the death of Ms Binumol Pollasery our midwifery colleague from the Merrion Wing team who was so highly regarded by everyone and we also fondly remember her husband, Binoy and their children. May she rest in peace.

I want to express my gratitude to all the midwifery, nursing and health care assistant staff for all they do to support maternity, neonatal and gynaecology care within the hospital. I want to pay particular tribute to my Assistant Directors of Midwifery and Nursing on day and night duty who work tirelessly to support the service and support me personally too in my role. The CMM 3s and CMM 2s carry a huge responsibility for the management of all of the units and each of them continued to make a great contribution to our team in the last year. My PA Ms Siobhan Flanagan, my HR colleague Ms Lisa Murray and all the HR team are extremely hardworking in supporting us every day. I am privileged to work with committed colleagues on the Executive Management Team, including Prof Shane Higgins, Master, Mr Ronan Gavin, Secretary/General Manager, Mr Alistair Holland, Financial Controller and Dr Roger Mc Morrow, Clinical Director. There are also so many other colleagues across the Hospital who support all of us behind the scenes.

The staff in the National Maternity Hospital are so committed to supporting all women, their partners and families during pregnancy and childbirth and all women engaging with the gynaecology services. It is so heartening to read the excellent feedback about the care we provide in the midwifery and nursing and the wider team. The need to move to the new Hospital at Elm Park becomes more urgent annually due to the pressures for space and improved facilities but the care we provide continues to be of the highest quality.

Mary Brosnan,
Director of Midwifery & Nursing.

The People and Organisation Committee

BSc Midwifery graduates Omobolanle Adeyela and Karen Nevin at their Graduation Ceremony.

The People and Organisation Committee was formed in May 2022 with a mandate to: *"advise The National Maternity Hospital Executive on all matters relating to People and Organisation, to maintain and grow the reputation of The National Maternity Hospital as one of Europe's leading providers of maternity and women's healthcare services with a focus on the proposed move to Elm Park campus."* This is done through the provision of strategic oversight to the Human Resources (HR) Department and Executive Management Team, on matters to support the people ambitions of the NMH Strategy, and provide assurance to the NMH Executive Committee that the HR and People and Organisation related activities, are in place and deliver the required outcomes and benefits.

The focus of the Committee for 2023 was to look at recruitment challenges, improve policy documentation and governance pathways in preparation for inputting into the next Hospital strategy over 2024. Over 2023, the People and Organisation Committee supported the review, implementation and embeddedness of the following Hospital policies: the introduction of the Blended Working Policy, revisions to the Protected Disclosure Policy and the creation of its first Gender Pay Gap report. In addition, the Committee supported the HR Department in identifying and developing staff retention initiatives, as well as providing guidance through the review and testing of controls as relates to its people risks; this was done at both a corporate and departmental level.

The members of the Committee are; Ms Denise Cole, Chair, Ms Sarah Claxton, Ms Noirín O'Sullivan, Mr George Maybury, and Ms Patricia Nolan. Ms Mary Brosnan, Director of Midwifery and Nursing, Mr Ronan Gavin, Secretary Manager, Ms Yvonne Connolly, HR Manager and Ms Caoimhe de Brun, Deputy HR Manager also in attendance. Ms Gráinne Hennessy resigned from the Committee in May 2023 and we thank her for her time and commitment during her time with us.

Ms Denise Cole, Chair.

Audit Committee

Trainee Therapist Corinne Bezy-Henry with Meg Fitzgerald, Psychosexual Therapist at Charter Day

The Audit Committee's roles and responsibilities include:

(i) Oversight of the audit of The National Maternity Hospital (NMH) annual financial statements including the terms of engagement of the external auditor, the nature and scope of the annual audit programme and to assess on an annual basis, the independence, objectivity and effectiveness of the external auditor.

(ii) Review of the NMH Annual Report and Financial Statements and to consider whether they are fair, balanced and understandable, and provide the information necessary for an understanding of the NMH framework. Specific responsibilities in this regard include recommending to the Board approval of the annual financial statements.

(iii) Oversight of compliance with legal and regulatory requirements including Charities Act 2015, Charities Governance Code and HSE Service Level Agreement.

(iv) Provide assurance to the Board as to the effectiveness of the Hospital's systems of internal control, including financial operational and compliance controls and non-clinical risk management.

The Audit Committee convened seven times during the year which included meeting with the Hospital's external auditors, PWC, to agree their terms of engagement for the audit of the Hospital's annual financial statements and, following completion of the audit, to receive and consider PWC's post audit report and recommendations. The Audit Committee also had ongoing interactions throughout the year with the Hospital's internal auditors, Crowe, to agree their work plan for the year and review reports issued. Internal Audit reports received from Crowe and considered by the Audit Committee during 2023 covered Accounts Payable, Fixed Assets, HR, Procurement and Contract Management. The Audit Committee also tracks and monitors the implementation of recommendations of internal audit reports and, in 2023, followed up on the ICT Security and Systems review.

The Audit Committee, in conjunction with Finance Committee, continues to oversee preparations for the adoption of the Charities SORP (Statement of Recommended Practice) for the Hospital's accounts, which will become mandatory following approval of the Charities Amendments Bill which is currently before the Houses of the Oireachtas.

Ms Ann Rath, Assistant Director of Midwifery & Nursing, retired during the year and we thank her for her expertise and contribution towards the work of the Committee.

Mr Tom Murphy was welcomed to the Committee in May 2023.

The members of the Audit Committee in 2023 are Mr. Aidan Devlin (Chair), Ms Mairéad Butler, Ms Michele Connolly, Mr Frank Downey and Cllr. Naoise Ó Muírí and Mr Tom Murphy. Mr Eoghan Hayden, Chief Clinical Engineer in attendance (from May).

Aidan Devlin, Chair.

Quality Risk and Patient Safety Committee

The Quality Risk and Patient Safety Committee (QRPS) operates under Terms of Reference approved by the Board. These are reviewed annually and changes made as needed.

The main aims of the QRPS Committee are to:

a. understand the risks to which the patients and the staff are exposed and to provide assurance that process is in place to ensure they are managed adequately;
b. drive quality, risk and patient safety strategy, management and improvement within the NMH and
c. provide a level of assurance to the Board that there is adequate and suitable governance of quality, risk and patient safety in place.

To these ends, the QRPS Committee met five times during the year. At these meetings reports from various departments were reviewed, covering matters such as data protection, incident management and risk management in general.

The beginning of 2023 year continued to be influenced by the impact of the COVID-19 pandemic. By June, the pandemic was declared to be officially over. COVID-19 funding was ceased and remaining visiting restrictions removed. Staff, however, continue to be vigilant and COVID-19 vaccine boosters were offered to staff in the Autumn.

The Committee continues its work in all aspects of potential risk: Departmental Risk Registers Reports are reviewed as are reports in relation to General Data Protection Regulation (GDPR) and Health and Safety. The IT Department continues to ensure that the Hospital follows the HSE guidelines in relation to Cyber Security, an area that the Hospital has always been at the forefront of. 2023 included engagement with the National Cyber Security Centre in relation to Network & Information Systems. Consideration of the best means, and possible software to manage data extraction from various systems for the best possible risk related reports was initiated.

The launch of the HSE Enterprise Risk Management Policy and Procedures 2023 in June was noted, and in particular the Risk Appetite Guidance Notes which will be considered as the Committee reviews the NMH Risk Appetite.

Nicky Clarke, retired Assistant Director of Midwifery & Nursing with Mary Brosnan, Director of Midwifery & Nursing and Cora McComish, retired Tutor, and Ann Rath retired Assistant Director of Midwifery & Nursing at Charter Day.

The Health Information and Quality Authority (HIQA) visited the Hospital at the end of May with very positive comments noted on staff culture, commitment, cleanliness, catering and the Labour and Birthing Unit. As usual, the primary limiting factor in the delivery of the service was noted as infrastructure. The final HIQA report was received in October 2023. HIQA visited the Radiology Department in December and the overall report was very good with some minor recommendations regarding additional cover for Medical Physicists.

The embargo on recruitment became an item of concern towards the end of the year among an already stretched and stressed workforce. The QRPS Committee noted that discussions regarding SECMs (Self-employed Community Midwife) were ongoing with Ireland East Hospital Group (IEHG) and the National Women and Infant's Health Programme (NWIHP) during the year.

We welcomed Ms Carmel Logan to the Committee in May 2023.

The members of the QRPS Committee are Ms Mairéad Butler (Chair), Dr Ingrid Browne, Mr Aidan Devlin, Prof Declan Keane, Prof Fionnuala McAuliffe, Ms Jane McCluskey, Dr Roger McMorrow, Cllr. Naoise Ó Muirí, Ms Patricia O'Shea, Mr Bernard McLoughlin and Ms Carmel Logan. Ms Mary Connolly (external advisor, AON), Dr Anne Twomey, Director of Quality Risk and Patient Safety and Mr Ronan Gavin, Secretary/ General Manager, also attend.

The Committee thanks the Master, Prof Shane Higgins, Mr Ronan Gavin, Dr Anne Twomey and Ms Mary Connolly for their support and assistance throughout the year.

Mairéad Butler, Chair.

Co-Location Committee

The Committee continue to work on progressing The National Maternity Hospital (NMH) at Elm Park project through the various decision processes. The focus of the group's work at the start of 2023 was finalising the Coordination Agreement which is part of the legal documentation. In April, this Agreement was signed and submitted.

The Stage 2c Report was closed off in May and this will form the basis for the tender for the construction of the new hospital which is expected to tender in Q2 2024.

On 11th July 2023, the Cabinet approved the Final Business Case (FBC) for the new NMH at Elm Park. In mid-2023 the tender went out for the Advanced Enabling Works following tender evaluation. In December 2023, Clancy Construction were appointed as the contractor for these works.

> "THE SUITABILITY ASSESSMENT QUESTIONNAIRE (SHORT-LISTS POTENTIAL BUILDERS) WAS ISSUED FOR THE MAIN WORKS. PROGRESSING THROUGH THESE PROCESSES MARKS A SIGNIFICANT MILESTONE FOR THE HOSPITAL'S MOVE TO OUR NEW HOSPITAL AT ELM PARK".

The Suitability Assessment Questionnaire (short-lists potential builders) was issued for the main works. Progressing through these processes marks a significant milestone for the Hospital's move to our new hospital at Elm Park.

Mr Stephen Vernon, resigned from the Co-location Committee on 31st December 2022 having served faithfully in the role of Chair since the Committee's establishment in January 2019. The Committee and the Hospital would like to thank Mr Vernon for his invaluable input and dedication in getting the Project to this point. Ms Gráinne Hennessy resigned from the Committee in May having served on the Committee since January 2020. We would like to thank her for her work and contribution over the years.

Members of the Co-Location Committee in 2023 are Mr Pat McCann, Chair, Ms Michele Connolly, Ms Gráinne Hennessy (to May), Dr Roger McMorrow and Ms Sarah Claxton. I would like to thank all of the Committee members for their time, expertise and commitment over the course of 2023.

Mr Pat McCann, Chair, Co-Location Committee.

Pat McCann, Deputy Chairman, presenting Paula Cashin, 2023 recipient of the Neonatal Medal awarded for results in clinical assignments in the Postgraduate Diploma in Neonatal Studies at Charter Day.

Medical Fund Committee

Karen Nevin, recipient of the Elizabeth O'Farrell Medal, awarded to the midwife who achieved the second highest marks in the in the National University of Ireland exams, Tegan Kavanagh, recipient of the Hospital Gold Medal, awarded to the midwife who achieved the overall highest marks in the National University of Ireland exams with Karen's sister Kate Nevin.

The Medical Fund, as set out in the Hospital Charter and Bye-laws, provides funding for education and research related to women's health care. It receives its funding from the semi-private clinic, ("SPC"), whose costs and revenues are shared between the consultants who operate the semi-private clinic and the Medical Fund. The semi-private clinic offers a third category of care for patients of The National Maternity Hospital that falls between the public offering and that offered on a fully private basis.

Following a review of the SPC, a number of improvements were introduced during 2023. These included the introduction of a booking portal (Swiftqueue), the update of the SPC website and the painting and refurbishment of the Clinic. Arrangements were also put in place for additional consultant cover to ensure that the Clinic was consultant led at all times.

During 2023 the Medical Fund received a total of €1,178k income from its share of the semi-private clinic activities. Its share of the costs to operate the clinic, amounted to €933k of which €355k related to clinic salaries. That resulted in funds available for charitable purposes of €542k. This was used to fund a variety of activities including the provision of €410k funding towards 4.5WTE Research Fellows and €53k for other comparable research and education activities. The Fund had a deficit of €186k for the year.

With the introduction of the revised Sláintecare contract arrangements, Public Only Consultant Contract (POCC23), the Committee assessed the potential impact on activity, finances and cashflows. The short-term impact is not likely to be significant but the medium and longer term impacts may be significant so the staffing of the clinic will be kept under close review.

> "WITH THE INTRODUCTION OF THE REVISED SLÁINTECARE CONTRACT ARRANGEMENTS, PUBLIC ONLY CONSULTANT CONTRACT (POCC23), THE COMMITTEE ASSESSED THE POTENTIAL IMPACT ON ACTIVITY, FINANCES AND CASHFLOWS".

The Clinic Manager, Ms Rosie Byrne, resigned during the year and we thank her for all her good work. Our thanks is also extended to Ann Barry for her dedication and assistance during the year in stepping into Rosie's role.

The Medical Fund Committee meets on a regular basis and reports to the NMH Executive Committee. The Medical Fund Committee comprises the Master, Prof Shane Higgins and Dr Stephen Carroll who is the elected representative from the Obstetrics & Gynaecology Consultants of the Hospital and Ms Michele Connolly, Honorary Treasurer, Mr Frank Downey and Prof Declan Keane. Ms Gráinne Hennessey resigned from the Committee in May 2023 having served on the Committee since 2021 and we thank her for her invaluable work.

Michele Connolly, Honorary Treasurer, Chair, Medical Fund.

House Committee

Lucille Sheehy, Assistant Director of Midwifery & Nursing, Clinical Practice Development, Tegan Kavanagh, 2023 recipient of the Hospital Gold Medal, Mary Brosnan, Director of Midwifery and Nursing, Karen Nevin, 2023 recipient of the Elizabeth O'Farrell Medal and Orla Gavigan, Clinical Placement Coordinator at Charter Day.

The House Committee is one of the longest serving sub-committees of the Board and meets five times each year. The Committee conducts unannounced independent quality assurance inspections of the Hospital's facilities and equipment and communicates these findings to the Executive Management Team and the Board. The House Committee reviews the facilities through a structured format that is founded on the infection control requirements, and plays a significant role in monitoring many of the elements that contribute to the efficacy of the Hospital's infection control strategies.

In 2023, the Committee assessed 10 clinical areas of the hospital. Collectively these assessments achieved an overall average score of 94%, and an average medical equipment score of 93%, exceeding the hospital's targets.

In June, the Committee welcomed Ms Cecilia Barker and Ms Bernadette Campion. In September Ms Lydia Ensor retired and in December Ms Kathleen O'Grady also retired. The Committee wishes to thank Ms Ensor and Ms O'Grady for their contributions and many years of service.

The House Committee members in 2023 are: Ms Catherine Altman, Chair, Ms Sara Appleby, Ms Sheena Carton, Ms Jane Collins, Ms Fiona Davy, Ms Elaine Doyle, Ms Lydia Ensor, Ms Kate Higgins, Ms Margaret McCourt, Ms Anne Murphy, Ms. Teresa Murphy, Ms. Kathleen O'Grady, Ms Aoife O'Shea, Ms Louise Bennett, Ms Suzanne O'Brien, Ms. Cecilia Barker and Ms. Bernadette Campion.

The Committee wishes to thank Prof Shane Higgins, Master, Ms Mary Brosnan, Director of Midwifery & Nursing, Mr Ronan Gavin, Secretary / General Manager, Mr Mark Anderson, Hygiene Services Manager and Mr Calin Buie, Hygiene Services Supervisor for their support and assistance throughout the year.

Catherine Altman, Chair.

Masters of The National Maternity Hospital

2019 –	Shane Higgins
2012 – 2018	Rhona Mahony
2005 – 2011	Michael Robson
1998 – 2004	Declan Keane
1991 – 1997	Peter Boylan
1984 – 1990	John M. Stronge
1977 - 1983	Dermot W. MacDonald
1970 – 1976	Declan J.Meagher

1963 – 1969	Kieran O'Driscoll
1956 – 1962	Charles F.V. Coyle
1949 – 1955	Arthur P. Barry
1942 – 1948	Alex W. Spain
1932 – 1941	John F. Cunningham
1924 – 1931	Patrick T. McArdle
1923	Sir Andrew J. Horne
1923	Patrick T. McArdle

1909 – 1922	Sir Andrew J. Horne
1909 – 1922	Reginald J. White
1894 – 1908	Patrick J. Barry
1894 – 1908	Sir Andrew Horne
1885 – 1893	William Roe

Charter Day Lectures

2023	**Professor Michael A. Patton**	"The Importance of Genetics"
2022	**Professor Andrew Shennen**	"The 3 P's of Preterm Birth, Predict, Prevent & Prepare
2021	**Dr. Sanne Gordijn, PhD.**	"The Placenta – A Love Story"
2020	**Dr. Roch Cantwell**	"There is no Health without Perinatal Mental Health"
2019	**Professor Alan D. Cameron**	"Each Baby Counts - a Five Year Quality Improvement Programme"
2018	**Professor Lesley Regan**	"Current challenges for the President, Royal College of Obstetrics & Gynaecology, UK"
2017	**Dr David Hugh Richmond**	"When will we ever learn?"
2016	**Dr Jeanne A. Conry**	"The Ostrich And The Obstetrician Gynaecologist: How The Environment Can Impact Reproductive Health"
2015	**Dr John O. L. DeLancey**	"Birth, Pelvic Floor Injury and Prolapse: Who Cares?"
2014	**Professor Mark Kilby**	"Fetal Medicine & Therapy: A Fantastic Step Forward But Are We Delivering A Good Service?"
2013	**Professor Michael Raymond Foley**	"Discovering Fulfilment as a Medical Professional – Ancient Wisdom for Modern Medicine"
2012	**Professor Michael de Swiet**	"Saving Mothers' Lives: Lessons to be learned from the Confidential Enquiry into Maternal Mortality"
2011	**Professor Dian Donnai**	"Genetic Medicine – Possibilities and Promises"
2010	**Professor James Eisenach**	"Pain Pregnancy & Depression."
2009	**Dr Kenneth J. Leveno**	"Caesarean Memories"
2008	**Dr. Terry Inder**	"The Pathway to Improving Neurodevelopment in at-risk Infants – Nurturing Fetal and Neonatal Neurons"
2007	**Prof Wolfgang Holzgreve**	"Fetal Cells and DNA in maternal circulation- clinical importance for non-invasive prenatal diagnosis and maternal diseases"
2006	**Dr. José Belizán**	"Calcium Intake During Pregnancy-Maternal and Fetal Outcome"
2005	**Dr. Robert C. Pattinson**	"Getting the Right Thing Done"

2004	**Prof. Thomas F. Baskett**	"The Evolution of Operative Vaginal Delivery"
2003	**Prof Heman V. Van Geijn**	"Is Cardiotocography to Blame?"
2002	**Joseph J. Volpe**	"Brain Injury in the premature infant – is it preventable?"
2001	**Professor Frank A. Manning**	"Echoes from the Past: the Alpha-Omega Theory."
2000	**Raymond J. Reilly**	"Surgical Gynaecology, the Past, the Present and the Future."
1999	**Paul Hilton**	"Vesicovaginal Fistula – Of Historical Interest?"
1998	**Sir Naren Patel**	"Chronogenetics – Role of Obstetricians."
1997	**Dr. Fredric D. Frigoletto Jr.**	"Is Obstetric Practice Evidence based?"
1996	**Carol J. Baker**	"Group B Streptococcal Disease: Pilgrims' Progress."
1995	**Prof. Fiona Stanley**	"Cerebral Palsy – Contribution from the Antipodes."
1994	**R. W. Beard**	"Medicine in the New Europe – The Impact on Obstetrics and Gynaecology"
1993	**Knox Ritchie**	"Sad – but can anything be done? …"
1992	**John Monaghan**	"A Century of Subspecialization in Gynaecological Oncology – are we progressing?"
1991	**Charles Whitfield**	"The Rh Story"
1990	**Roy M. Pitkin**	"Anatomy and Physiology of a Peer Review Journal"
1989	**Claude Sureau**	"Decision making in reproductive medicine."
1988	**Geoffrey Chamberlain**	"One up on Dactylonomy"
1987	**Hugh Philpott**	"Obstetrics of Poverty."
1986	**Charles R. Scriver**	"Medelian Disease – What can it do to us? Can it be treated?"
1985	**Alexander C. Turnbull**	"Learning Obstetrics in Scotland, Wales, England and Ireland."
1984	**Sir Rustam Feroze**	"What alternative to what Medicine?"

1983	**William Dignam**	"Post Graduate Education in Obstetrics and Gynaecology in the U.S.A.: At the Crossroads."
1982	**Richard Mattingly**	"New Horizons in Cervical Cancer Detection."
1981	**Robert H. Usher**	"The Very Low Birth-weight Infant – Immediate and Long Term Prospects."
1980	**Shirley Driscoll**	"Placentas I Have Known."
1979	**John S. Tomkinson**	"Ultimate Tragedy."
1978	**Otto Kaser**	"Post-operative Complications."
1977	**Denis Cavanagh**	"Eclamtogenic Toxaemia – The Science and the Art."
1976	**John H. Pinkerton**	"The Tell Tale Heart."
1975	**Marcel Renaer**	"Transplacental Haemorrhage as a Cause of Perinatal Mortality and Morbidity."
1974	**James Scott**	"Counting the Cost"
1973	**Mogens Ingerslev**	"Modern Democracy in the National Health Service"
1972	**Ian Donald**	"Naught for Your Comfort"
1971	**Raymond Illsley**	"Social Limitations on Obstetric Management."

1970	**Christopher J. Dewhurst**	"The Place of Modern Technical Advances in Obstetrics."
1969	**Dunanc Reid**	"The Right and Responsibility."
1968	**G. J. Kloosterman**	"The Practice of Obstetrics in the Netherlands."
1967	**Sir John Peel**	"Pre-Diabetes in Obstetrics and Gynaecology."
1966	**Hugh McLaren**	"The Conservative Treatment of Cervical Pre-Cancer."
1965	**John McClure Browne**	"Placental Insufficiency."
1964	**Sir Hector MacLennan**	"Version."
1963	**Harold Malkin**	"The Art of Obstetrics."
1962	**Charles Scott Russell**	"The Fetus and its Placenta."
1961	**Sir Norman Jeffcoate**	"Prolonged Labour."
1960	**John Stallworthy**	"The Debt We Owe."
1959	**George Gibbard**	"Changes in the Manifestations of Puerperal Sepsis."
1958	**Sir Arthur Gemmell**	"Some thoughts on the Adrenal in pregnancy."

Charter Day Celebrations.

Executive Committee (The Board)

Pat McCann *Deputy Chairman*

Pat has over fifty years' experience in the Hotel business. He started in 1969 in Ryan Hotel Group plc before joining Jurys Hotel Group plc in 1989. He retired from Jurys Doyle in 2006 and founded Dalata Hotel Group in 2007. Pat served as President of IBEC from September 2019 to September 2020. Pat was Chairman of Whitfield Hospital in Waterford from 2011 to 2018. He is currently a Non-Executive Director of Glenveagh and a number of private companies. On March 2nd 2021, Pat announced his retirement from Dalata Hotel Group plc.

William Johnston *Honorary Secretary*

William Johnston is an economics graduate of Trinity College Dublin, a solicitor and the external examiner in banking law for the Law Society; he is a member of the Governing Body and chair of the Finance and Property Committee of Technological University Dublin; he is a Board member of the Housing Finance Agency and the Port of Waterford.

Michele Connolly *Honorary Treasurer*

Michele Connolly is a Chartered Accountant with over 25 years commercial experience. She is currently a partner in KPMG Ireland and Head of the KPMG EMA Global Infrastructure sector. She specialises in supporting State, Semi State, not for profit and commercial companies in development of new infrastructure, fund raising and general financial matters.

Prof Shane Higgins *Master*

Shane Higgins, is a Consultant Obstetrician/Gynaecologist and the current Master of The National Maternity Hospital. He is an Associate Professor at UCD, Department of Obstetrics & Gynaecology and has a special interest in Maternal-Fetal Medicine. Shane has a broad range of clinical and management experience gained within Ireland, Scotland and Melbourne, Australia.

Dr Ingrid Browne

A graduate of RCSI medical school, Ingrid Browne has been a Consultant Anaesthesiologist since 2004 to National Maternity Hospital and St Vincent's University Hospital. She is a fellow of the College of Anaesthesiologists and holds a Masters in medical science. She completed post graduate fellowship training in obstetric anaesthesia at Columbia University NYC. She is involved in Clinical Governance and is a member of the QRPS committee.

Mairéad Butler

Mairéad Butler is a Chartered Accountant and has spent most of her career in financial services in Dublin and Sydney, working in risk, compliance and communications roles. She is also a Director of An Cosán, a charity focused on education as a pathway out of poverty.

Sarah Claxton

Sarah is an Engineer with over 24 years' experience in the energy industry. Having worked in technical engineering and line management roles, she completed an MSc in Work and Organisation Behaviour and has worked in the area of Strategic HR & Organisation Development for the past 10 years. She currently leads People and Organisation Capability at ESB Networks as that business transforms to enable wide-scale electrification of society in support of the National Climate Action Plan.

Fr Enda Cunningham

Son of a NMH nurse, Fr Enda serves as Administrator of Westland Row parish and chaplain to the National Maternity Hospital.

Denise Cole

Denise Cole has 25 years of experience working in Human Resources and combines a wealth of strategic and operational HR and organisation development experience in both the private and public sectors. Her career includes KPMG in London and Dublin, the Beacon Hospital as Head of HR and St James Hospital as Head of HR Strategy. Denise is currently Head of HR for the Courts Service where she leads a People & Organisation Transformation programme.

Aidan Devlin

Aidan Devlin is a Chartered Accountant and a UCC Commerce graduate. He is a member of the Institute of Directors in Ireland and the Mediators Institute of Ireland. Aidan has over 35 years' experience in Corporate Banking and Project Finance both in Ireland and the Middle East. He is also a board member of an Affordable Housing Body and was a founding board member of the NMH Foundation.

Frank Downey

Frank Downey has over 30 years' experience as an Actuarial and Employee Benefits Consultant. Frank is an economics graduate of Trinity College, Dublin, a Director of Invesco Limited and an actuary and advisor for corporate clients. Frank also acts as a trustee for a number of large pension schemes.

Cllr. James Geoghegan

James Geoghegan is an elected member of Dublin City Council, practising Barrister at Law in Ireland with a mixed civil practice with a focus on Banking Law, Administrative Law, European Union Law and civil proceedings related to crime.

Gráinne Hennesy

Gráinne Hennessy is a senior partner at Arthur Cox with over 28 years' experience in advising lenders and borrowers on syndicate finance, real estate finance, including some of the largest construction finance projects in the country, leveraged acquisition finance and debt restructurings. Gráinne was Head of the Arthur Cox Finance Department and a member of its management committee for 6 years. Gráinne is also one of two partners who are responsible for Arthur Cox's diversity and inclusion strategy.

Prof Declan Keane

Declan Keane has been a Consultant Obstetrician since 1995 and is a former Master of the Hospital. He has worked in the UK and the USA and was recently appointed as a Professor to the RCSI. He has considerable administrative experience and was a former member of the National Women's Council and was the obstetrician advising the Citizen's Assembly on the 8th Amendment.

Carmel Logan

Carmel Logan is a Chartered Accountant and Tax Adviser. She is a partner at KPMG with over 20 years' experience providing tax services to Irish and international companies across a range of sectors including real estate, infrastructure, technology and lifesciences. She is also a member of a number of industry bodies across the sectors she works in.

Prof Fionnuala McAuliffe

Fionnuala McAuliffe is Chair and Professor of Obstetrics & Gynaecology, UCD, Director UCD Perinatal Research Centre, Head, Women's and Children's Health, UCD, Consultant Obstetrician & Gynaecologist at The National Maternity Hospital. Her subspecialty area is maternal and fetal medicine and she is Programme Director of the RCOG maternal and fetal medicine subspecialisation fellowship at NMH. She has received significant grant funding both nationally and internationally. Fionnuala has developed guidelines for pregnancy both in Ireland, UK and internationally.

Dr John Murphy

John Murphy is a Consultant Paediatrician in the National Maternity Hospital and Paediatric & Neonatal Clinical Lead with the HSE in Clinical Strategy & Programmes Directorate. His is also editor of the Irish Medical Journal.

Tom Murphy

Tom Murphy is a Chartered Accountant with over 30 years of financial and commercial experience while based in the UK, the US and Ireland. He served as CFO of Fyffes Plc. for 14 years. Now retired, he is a non-executive director of several companies.

Jane McCluskey

Jane McCluskey is a lawyer with a large multinational technology company and has over ten years' experience practising corporate, commercial and intellectual property law. She is also a registered trade mark agent. Jane is Mum to four children, all of whom were born at the National Maternity Hospital.

Dr Roger McMorrow

Roger McMorrow is a graduate of The Queens University of Belfast and he has been a consultant anaesthetist at the National Maternity Hospital and St Vincent's University Hospital since 2009. He has served as Clinical Director of the NMH since January 2018. He has a specialist interest in high risk obstetrics, clinical risk and high altitude mountaineering. In 2007 he was part of an expedition that reached the summit of Mt Everest.

Prof Peter McParland

Peter McParland is a retired Consultant Obstetrician/Gynaecologist at the National Maternity Hospital having worked there for over 30 years. He previously worked in Bristol, London and Toronto. He was Director of Fetal Medicine for over 20 years with a special interest in ultrasound, prenatal diagnosis and high risk pregnancies. He is the author of several National guidelines.

Nóirín O'Sullivan

Nóirín O'Sullivan most recently served as United Nations Assistant Secretary General for Safety and Security based in New York. Nóirín served as Garda Commissioner from 2014 – 2017. She holds a Masters in Business Studies from UCD Smurfit Business School. She has served two terms on the Governing Council of the Pharmaceutical Society of Ireland and chaired the Inspection and Enforcement Committee. She is a member of the North American Advisory Board of the UCD Smurfit Business School. Nóirín is the recipient of numerous awards including an Honorary Doctorate of Laws from the University of Ulster for Distinguished Public Service.

Cllr. Cat O'Driscoll

Cat O'Driscoll represents the Cabra Glasnevin LEA and chairs the Arts and Culture Strategic Policy Committee in Dublin City Council. A native of Cork, Cllr. O'Driscoll has been a board member of Quality and Qualifications Ireland and The National Forum for the Enhancement of Teaching & Learning.

Ms Patricia O'Shea

Patricia O'Shea is a law graduate of University College Cork and is Group Head of Legal Affairs & Secretariat for a semi-state company. She was formerly General Counsel of a US multinational company serving as Company Secretary and a Director of a group company.

Dr Michael Robson

Michael Robson is a Consultant Obstetrician & Gynaecologist and former Master of the NMH. Dr Robson is the National Clinical Director of the Maternal and New-born Clinical Management System (Maternity, neonatal and gynaecology electronic patient record for Ireland). He also developed the methodology behind the perinatal and caesarean classification system used world wide known as the Ten group (Robson) Classification System.

Stephen Vernon

Stephen Vernon is one of the founders of Green Property Group and has extensive experience in property and property development in Ireland and the UK. A Bristolian, educated in London, Mr Vernon has been based in Ireland for several years.

Prof Jennifer Walsh

A graduate of UCD, Jennifer Walsh is a Consultant Obstetrician & Gynaecologist and Maternal and Fetal Medicine Subspecialist at the National Maternity Hospital. She was appointed to NMH in 2016 following completion of postgraduate subspecialty training at Columbia University NYC. She is the Director of Fetal Medicine at the NMH. Jennifer sits on both the Project Team and Project Board for the move to SVUH campus at Elm Park and chairs the Digital Health Steering Group for the future hospital. She is also Mum to three children, all of whom were Holles Street babies.

Cllr. Naoise Ó'Muirí

Naoise Ó Muirí has served as a Dublin City Councillor since June 2004 and is a former Lord Mayor of Dublin. Naoise studied Engineering at the National University of Ireland, Galway and runs a technology company.

Executive & Sub Committees

Executive Committee
Dr Dermot Farrell,
Archbishop of Dublin, *Chairman*
Lord Mayor of Dublin,
Cllr. Daithí de Róiste *(from June)*
Mr Pat McCann, *Deputy Chairman*
Mr William Johnston, *Honorary Secretary*
Ms Michele Connolly, *Honorary Treasurer*
Prof Shane Higgins, *Master*
Dr Ingrid Browne
Ms Mairéad Butler
Ms Sarah Claxton
Ms Denise Cole
Very Rev Fr Enda Cunningham
Mr Aidan Devlin
Mr Frank Downey
Cllr. James Geoghegan
Ms Gráinne Hennessy *(to May)*
Prof Declan Keane
Ms Carmel Logan
Dr John Murphy
Mr Tom Murphy
Prof Fionnuala McAuliffe
Ms Jane McCluskey
Prof Peter McParland
Dr Roger McMorrow
Cllr. Cat O'Driscoll
Cllr. Naoise Ó Muírí
Ms Patricia O'Shea
Ms Nóirín O'Sullivan
Dr Michael Robson
Mr Stephen Vernon *(to June)*
Prof Jennifer Walsh

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*
Ms Mary Brosnan,
Director of Midwifery & Nursing
Mr Alistair Holland, *Financial Controller*

Finance Committee
Mr Pat McCann, *Deputy Chairman*
Mr William Johnston, *Honorary Secretary*
Ms Michele Connolly, *Honorary Treasurer*
Prof Shane Higgins, *Master*
Ms Denise Cole
Ms Carmel Logan
Mr Tom Murphy

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*
Ms Mary Brosnan,
Director of Midwifery & Nursing
Mr Alistair Holland, *Financial Controller*

Audit Committee
Mr Aidan Devlin, *Chair*
Ms Michele Connolly, *Honorary Treasurer*
Ms Mairéad Butler
Mr Frank Downey
Cllr. Naoise Ó Muírí
Mr Tom Murphy *(from May)*

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*
Mr Alistair Holland, *Financial Controller*
Ms Ann Rath, *A Director of Midwifery & Nursing (to Apr)*
Mr Eoghan Hayden,
Chief Clinical Engineer *(from May)*

QRPS Committee
Ms Mairéad Butler, *Chair*
Dr Ingrid Browne
Mr Aidan Devlin
Prof Declan Keane
Ms Carmel Logan *(from May)*
Prof Fionnuala McAuliffe
Ms Jane McCluskey
Mr Bernard McLoughlin
Dr Roger McMorrow
Cllr. Naoise Ó Muírí
Ms Patricia O'Shea

In Attendance
Ms Mary Connolly, *AON*
Dr Anne Twomey, *Director of Quality, Risk & Patient Safety*
Mr Ronan Gavin, *Secretary/General Manager*
Mr Carl Alfvag, *Compliance & Operations Manager*
Mr Martin Creagh, *Health & Safety Manager*

Co-Location Committee
Mr Pat McCann, *Deputy Chairman*
Ms Michele Connolly, *Honorary Treasurer*
Ms Sarah Claxton
Ms Gráinne Hennessy *(to May)*
Dr Roger McMorrow

In Attendance
Prof Shane Higgins, *Master*
Dr Orla Sheil, *Consultant Obstetrician/ Gynaecologist and Joint Clinical Lead for NMH at Elm Park*
Mr Ronan Gavin, *Secretary/General Manager*

Nominations Committee
Mr Pat McCann, *Deputy Chairman*, *Chair*
Mr William Johnston, *Honorary Secretary*
Ms Michele Connolly, *Honorary Treasurer*
Prof Shane Higgins, *Master*
Ms Mairéad Butler
Ms Denise Cole
Mr Aidan Devlin
Prof Declan Keane
Dr John Murphy
Ms Paula Reid

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*

Medical Fund Committee
Ms Michele Connolly,
Honorary Treasurer, Chair
Prof Shane Higgins, *Master*
Dr Stephen Carroll
Mr Frank Downey
Ms Gráinne Hennessy *(to May)*
Prof Declan Keane

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*
Mr Alistair Holland, *Financial Controller*
Mr Francis Rogers, *Management Accountant*

NMH Executive Ethics Committee
Dr John Murphy,
Consultant Paediatrician, Chair
Prof Shane Higgins, *Master*
Ms Catherine Altman
Dr Ingrid Browne
Ms Denise Cole
Ms Caroline Devlin
Mr Frank Downey
Dr Paul Downey
Ms Jane McCluskey
Cllr. Naoise Ó Muírí

In Attendance
Mr Ronan Gavin, *Secretary/General Manager*

Marie Slevin, Developmental Psychologist, visiting speaker Prof Thomas Hildebrandt, Head of Department of Reproduction Management at Leibniz-IZW and full Professor of Wildlife Reproduction Medicine at Freie Universität Berlin, and honorary professor at the University of Melbourne, Australia with Sara Spencer and her husband, Dr Roger McMorrow, Clinical Director and Consultant Anaesthetist.

House Committee

Ms Catherine Altman, *Chair*
Ms Sara Appleby
Ms Cecilia Barker *(from May)*
Ms Louise Bennett
Ms Bernadette Campion *(from May)*
Ms Sheena Carton
Ms Jane Collins
Ms Fiona Davy
Ms Elaine Doyle
Ms Lydia Ensor *(to Sept)*
Mrs Kate Higgins
Ms Margaret McCourt
Ms Anne Murphy
Ms Teresa Murphy
Ms Suzanne O'Brien
Ms Kathleen O'Grady *(to Dec)*
Ms Aoife O'Shea

In Attendance
Prof Shane Higgins, *Master*
Ms Mary Brosnan,
Director of Midwifery & Nursing
Mr Mark Anderson,
Hygiene Services Manager

People and Organisation Committee

Ms Denise Cole, *Chair*
Ms Sarah Claxton
Ms Gráinne Hennessy *(to May)*
Mr George Maybury
Ms Patricia Nolan
Ms Nóirín O'Sullivan*In Attendance*
Mr Ronan Gavin, *Secretary/General Manager*
Ms Mary Brosnan,
Director of Midwifery & Nursing
Ms Yvonne Connolly, *HR Manager*
Ms Caoimhe De Brun, *Deputy HR Manager*

Board of Governors

Governors Ex-Officio
Dr Dermot Farrell
(Archbishop of Dublin – Chairman)
Councillor Daithí de Róiste
(Lord Mayor - Vice Chairman) *(from Jun)*
Prof Shane Higgins (Master)
Very Rev Enda Cunningham, Administrator,
Parish of St Andrew, Westland Row

Nominated by the Minister for Health
Ms Patricia O'Shea
Vacant

Nominated by Dublin City Council
Cllr. James Geoghegan
Cllr. Cat O'Driscoll

GOVERNORS

Governors Elected
Dr Alan O'Grady
Dr John R McCarthy
Dr Niall O'Brien
Mr J Brian Davy
Mrs Judith Meagher
Dr Jack T Gallagher
Mr Gabriel Hogan
Mrs Anne Davy
Mrs Margaret Anderson
Mrs Kathleen O'Grady
Dr John F Murphy, Obs
Dr Frances Meagher
Mr Kevin Mays
Dr Declan O'Keeffe
Prof Colm O'Herlihy
Mr William Johnston *(Honorary Secretary)*
Dr Peter Boylan
Mrs Joanne Keane
Mrs Anne Murphy
Mr Frank Downey
Mr Anthony Garry
Dr Freda Gorman
Mrs Jane Collins
Ms Alexandra Spain
Mrs Margo McParland
Mrs Catherine Altman
Dr John Murphy, Paeds
Mr Niall Doyle
Ms Lydia Ensor
Ms Sara Appleby
Ms Caroline Hayes (Simons)
Dr Peter Lenehan
Dr Orla Sheil
Prof Peter McParland
Ms Sheena Carton
Ms Elaine Doyle
Prof Declan Keane
Ms Maeve Dwyer
Dr Kevin McKeating
Mrs Mary Donohoe
Ms Catherine Ghose
Mr Barry Dixon
Ms Paula Reid
Ms Suzanne O'Brien
Ms Margaret McCourt
Ms Teresa Murphy
Ms Eugenée Mulhern
Ms Fiona Davy
Dr Michael Robson
Dr Deirdre MacDonald
Prof Fionnuala McAuliffe
Ms Jane McCluskey
Ms Isabel Foley
Cllr. Naoise Ó Muirí
Ms Elizabeth Nolan
Dr Ingrid Browne
Mr Stephen Vernon
Ms Rachel Hussey
Ms Niamh Callaghan
Mr Aidan Devlin
Ms Lisa Taggart
Ms Helen Caulfield
Ms Marie Daly Hutton
Mr Nicholas Kearns
Ms Michele Connolly *(Honorary Treasurer)*Ms Aoife O'Connor
Ms Mairéad Butler
Dr Roger McMorrow
Dr Rhona Mahony
Dr Paul Downey
Mrs Kate Higgins
Ms Aoife O'Shea
Ms Caroline Devlin
Ms Denise Cole
Ms Gráinne Hennessy *(to May)*
Mr Pat McCann *(Deputy Chairman)*
Ms Nóirín O'Sullivan
Ms Louise Bennett
Dr Stephen Carroll
Ms Sarah Claxton
Mr George Maybury
Mr Bernard McLoughlin
Ms Patricia Nolan
Prof Jennifer Walsh
Ms Carmel Logan
Mr Tom Murphy
Ms Cecilia Barker *(From May)*
Ms Bernadette Campion *(From May)*
Ms Sara Spencer *(from Dec)*

Professional Advisors

Law Advisors

Mason, Hayes & Curran, South Bank House, Barrow Street, Grand Canal Dock, Dublin 4.
Arthur Cox, Ten Earlsfort Terrace, Dublin 2.
Daniel Spring & Co. Solicitors, 50 Fitzwilliam Sq, Dublin 2.

Bankers

The Bank of Ireland, 2 College Green, Dublin 2.

Auditors

External
Price Waterhouse Coopers, Chartered Accountants, One Spencer Dock, North Wall Quay, Dublin 1.
Internal
Crowe, Marine House, Clanwilliam Place, Dublin 2

Sarah and Daniel Watson with Layla, born in The NMH in June 2023 and DJ, born in The NMH in December 2020, with Milo the Dog. Image: Linda Ashe Photography.

Neonatology

Shane Brewster and Aoife O'Donnell with their newborn baby Cuán in the NICU.

The Department of Neonatology aims to deliver excellence in neonatal care through innovation, cooperation, education, research with attention to evidence based practice, empathy and a family-centred approach. The NMH Neonatal Intensive Care Unit (NICU) provides tertiary medical services for newborns up to 6 weeks of age and admits patients from south Dublin and north Wicklow and Ireland East Hospital Group catchment area and also from other areas of Dublin and the island of Ireland. The neonatal unit has 35 beds (9 NICU, 13 HDU, and 13 SCBU) and provides a high level of care to medically complex neonates. It is recognised for its expertise in the management of prematurity, neonatal encephalopathy, seizures, perinatal stroke, sepsis, twin-to-twin transfusion syndrome, rhesus isoimmunisation and congenital anomalies.

We, the neonatal team, supervise the care of all liveborn babies (n=6,861) who are born in this hospital even if they do not require admission to the Neonatal Intensive Care Unit (NICU). Our staff attend all instrumental deliveries, emergency caesarean sections and the birth of any baby where there are recognised risk factors: in 2023, the instrumental delivery rate was at 12.1% and emergency C/S rate 19.1%. Every baby born in NMH undergoes a comprehensive physical examination by one of the neonatal team before discharge home. On average, we examine approximately 19 babies a day. Apart from providing reassurance to parents, this examination allows us to pick up conditions including heart murmurs, unstable hips and congenital anomalies that may not have been suspected antenatally so that advice can be given, and appropriate follow-up arranged. With mothers and babies spending less and less time in hospital, it is often a challenge to arrange such tests and referrals in such a short-time frame, particularly over weekends. We provide a nurse-doctor team every third week to the national neonatal transport programme, a vital service that transports critically ill newborn babies from anywhere in the country. Our staff is available to meet any family in advance of a delivery where problems are anticipated. This service has grown significantly over the past few years for a variety of reasons including more widespread access to routine antenatal scanning, advances in neonatal care and recent legislation allowing for termination of pregnancy in cases of fatal fetal anomalies. Our care of a baby does not end when the baby is discharged from the hospital as many of our babies return to clinic for follow-up or are referred for assessment by their GP or Public Health Nurse.

Last year, we admitted 1,202 babies to the NICU. On average, 1 in every 6 babies delivered in this hospital is admitted to us

even if only for a brief period of time. Many first-time parents are surprised to hear how high that figure is and are often not prepared for the fact that they may be separated from their baby for several hours. For the past number of years, we have made every effort to keep our admission rates for term infants (those infants born ≥37 weeks' gestation) as low as possible. We do this by auditing the reasons why babies are admitted and by looking at alternative ways to provide care that minimise the chances of mothers and babies being separated. In 2020, we introduced changes to how hypoglycaemia (low blood glucose) was managed in the newborn period. By doing so, our staff, supported by our nursing and midwifery colleagues on the postnatal wards, reduced the admissions for hypoglycaemia from 306 babies in 2019, to 189 babies in 2020, to 109 babies in 2021, to 81 babies in 2022, and to 69 babies in 2023. We will continue to make incremental changes year on year guided by feedback received from families who have used our services.

A core value in our Department is the concept of family-centred care, not just for those babies who spend long periods of time in our NICU, but also for those babies who may only be with us for a few days. As the clinicians caring for babies, we believe our role is to support families to provide as much of the direct care that their babies need as possible. Family Integrated Care (FICare) is a model of care developed initially in North America which aims to involve families in an integral way in the care of their babies while in NICU. FICare integrates families as partners in the NICU care team, and provides a structure that supports the implementation of family-centred care. 2022 saw the first steps in FICare implementation. In 2023, we introduced further FICare initiatives. We began by instituting a number of changes in the NICU to align more closely with a FICare model. For example, we have rolled out regular FICare group meetings for parents (mother's group, father's group and joint group sessions) to encourage mutual parental emotional and psychological support and to give parents a forum to feedback to us on where we could improve our NICU service. This initiative has been predominantly led by NMH neonatal nursing staff and I would like to thank all those involved in making these meetings a success. Also, during the ward rounds, parents are now encouraged to be at their baby's cotside to contribute to the ward round discussion and if at a neighbouring cotside, noise cancelling headphones are available to promote confidentiality between patients. Ideally, mothers (and partners) should be accommodated in beds beside their sick babies. Obviously, the infrastructural constraints of our hospital in its current location is the main obstacle preventing this from happening. This hospital was not built with modern neonatal intensive care in mind. This is another reason why this Department, along with the rest of the hospital, is fully supportive of our co-location to the St Vincent's University Hospital campus. In a newly-built modern hospital, one that is specifically designed with mothers and babies in mind, mothers and partners will be able to room-in with their babies' day and night.

Our NICU is one of four designated tertiary care NICUs in this country that provides specialised care to the most premature of infants, many of whom are referred to us while still in-*utero* (i.e. when the mother is still pregnant) from locations all around the country. Last year, we looked after 112 Very Low Birth Weight Infants (babies born ≤29 weeks and/or ≤1500g). These infants are extremely vulnerable and often spend several weeks in hospital frequently not being discharged home before their due date. There have been major advances in neonatal intensive care medicine over the past 50 years and survival across all gestational ages is increasing. We now have reported survivors of infants born at 22 weeks' gestation. In our hospital, where healthy babies are born at a rate of about one every hour, it can be hard to fathom that just a few feet away, in our NICU on the first floor, a tiny baby weighing less than 1lb may be attached to a life-support machine, receiving high level intensive care. The odds of a baby surviving at 23 weeks is still quite low but some of these tiny babies can, and do, survive. Unfortunately, many will face ongoing challenges, particularly as they get older, in terms of their long-term neurodevelopmental outcome. As greater numbers of these tiny fragile babies survive, research has shown us that optimising babies' early neurosensory experiences, and social environment, impacts on their long-term neurodevelopmental outcome. By providing individualised, neuroprotective care to each baby, by gentle containment, minimising stress and pain, safeguarding sleep and optimising nutrition, it has been shown that babies have better long-term physical, cognitive and emotional outcomes. Such developmental care principles underpin all of our care practices in the NICU. Our multidisciplinary team (MDT) which includes Psychology (Marie Slevin), Physiotherapy (Jo Egan and the team), Dietetics (Roberta McCarthy and her team), Speech and Language Therapy (Zelda Greene), Neonatal Occupational Therapy (Aoife Tonge) and Medical Social Work complement the advanced medical and nursing care we provide, advising parents and staff alike on positioning, feeding and social interactions.

Our NICU is one of 4 centres in the country that provides therapeutic hypothermia to infants with Hypoxic Ischaemic Encephalopathy (HIE). In 2023, a total of 5 infants (2 inborn and 3 outborn) were reported with HIE of which 5 (2 inborn and 3 outborn) received therapeutic hypothermia. A further 2 infants (2 inborn and 0 outborn) were diagnosed with Neonatal Encephalopathy but did not meet the criteria for HIE. All 2 of these underwent therapeutic hypothermia. Details on these cases are included in this report (see Neonatal Encephalopathy section).

Our outpatient clinic continued to be very busy, no doubt in part due to the pandemic. In all, 2,998 babies were seen in clinic of which 1,650 were first-time visits and 1,348 were follow-up visits. Apart from overseeing the patients who attend, the outpatient nursing and administrative staff triage

numerous queries, provide a huge amount of advice over the telephone to families, GPs and community services and follow up on a myriad of investigations and referrals. While a large part of this work often goes unnoticed, the clinic could not provide such a good service to our families without their dedication. We have also recently developed a specialised multi-disciplinary clinic for follow-up of the ex-NICU high risk babies (ACORN clinic, see below).

The NICU Developmental Psychologist, Marie Slevin, continues her important work in seeing all our NICU graduates at 2 years corrected age for a detailed neurodevelopmental assessment. For those families that cannot attend, Marie uses alternative methods to assess these babies by using validated parental questionnairessupported by phone contacts and/or limited face-to-face assessments. These data are invaluable by providing us with important feedback as to how our babies do in the long-term. Additionally, these assessments can provide families with very useful information that can be used to lobby for additional resources for their infant, if required. Staying with the neonatal follow-up theme, in 2023, we reinstated our World Prematurity Day Coffee morning for ex-NMH NICU graduates. This provided a lovely opportunity for families to return to NMH with their infants and toddlers for a happy, social occasion where they got to meet up with other families and with the nurses and doctors who cared for their babies while they were in the NICU. It was a great success!

Research plays a central and important role in the Neonatal Unit. In 2023, four Neonatology Specialist Registrars performed clinical research in the Department for higher degrees at UCD. Dr Carmel Moore studied different aspects of neonatal transfusion, supervised by Dr Anna Curley. Dr Caitriona Ní Chathasaigh studied airway management of newborns, supervised by Dr. Anna Curley and Dr. Eoin Ó Curraín. Dr. Lucy Geraghty studied the use of videolaryngoscopy for intubation of newborns, supervised by Prof Colm O'Donnell and Dr Daniel O'Reilly commenced his project looking at blood markers for infection in preterm babies with suspected late onset infection, supervised by Dr Anna Curley and Dr Naomi McCallion (Rotunda Hospital). The Department also participated in several multi-centre trials. Our NCHDs and nursing staff are encouraged to participate in local projects and audits, and to present their work at local and international meetings. We are enormously grateful to our families for their willingness to participate in research at such a difficult time in their lives. We are also hugely grateful to our colleagues – nursing, administrative, clinical engineering, allied health and medical – for their support us as we try to answer important questions about how to better care for babies.

One particular achievement the Department would like to highlight this year is the continued promotion of breastfeeding for our most vulnerable babies. We actively encourage women to express breast milk for their premature babies and use those tiny precious drops of colostrum as babies' first feeds. With the support and encouragement, not just of the staff in the NICU but also of the staff on the postnatal and gynaecology wards, the numbers of babies receiving their own mother's milk is increasing and we are seeing for the first time, mothers who have successfully transitioned their baby from tube feeding to exclusive breastfeeding, before discharge home. Our staff should take great pride in the role they play in empowering women to successfully breastfed their babies even when delivered prematurely. In addition, 2023 saw the appointment of an additional lactation nurse dedicated to NICU, Ms Ramita Dangol. Ramita has hugely enhanced the lactation support service offered to NICU mothers and has introduced a number of quality improvement initiatives which have resulted in both cost and environmental savings.

While most babies make the transition to extra-uterine life without a problem, we know that about 5 in every 100 babies born at term require medical assistance to help them begin breathing. As time is of the essence, much effort is focused on training staff (and not just those working in the Department of Neonatology) in the art of neonatal resuscitation. Increasingly, it is being recognised that simulation is a powerful tool to teach practical skills, build proficiency and speed and encourage good teamwork. Dr Eoin O'Currain, Dr Carmel Moore and Ms Shirley Moore ANP now run weekly neonatal resuscitation simulations in various locations around the hospital. These sessions have been very well received by staff and have resulted in improved core competencies across all levels and grade of staff.

Sadly, not all babies born in NMH survive. In our aim to support babies and families through this difficult journey, we further developed our neonatal palliative care service in 2023, in conjunction with the paediatric palliative care team in Children's Health Ireland. Dr John Allen, consultant in paediatric palliative care medicine attends NMH weekly and provides excellent support to both the neonatal and fetal medicine teams and enhances the links with community palliative care services.

We continue our use of "AngelEye" in the NICU; this is a secure camera system that allows mothers and fathers keep a watchful eye on their babies even when not in the hospital. This facility for families receives much positive feedback. The option to access all teaching sessions and hospital meetings using a virtual platform is now standard, allowing the staff much greater flexibility and leading to increased attendance rates. Families can now be offered the option of a virtual outpatient visit, if appropriate. Our Allied Health Professionals and Clinical Discharge Coordinators took virtual platforms a step further and now host a number of parental educational webinars and facilitated Q&A sessions on-line and these have been very well received by families.

May I conclude by taking this opportunity to thank the entire neonatal team which includes consultant colleagues, our nonconsultant hospital doctors, many of whom are with us for more than one year, our neonatal nursing staff under the stellar leadership of our CMM3, Ms Hilda Wall, our allied health professionals, our administrative staff and our dedicated household staff. We must also mention the many other ancillary services who support our work including the laboratory, pharmacy, radiology, infection control, ICT and bioengineering. We welcome our new locum consultant neonatologist, Dr Saira Tabassum to the team. Over 2023, a number of senior NICU staff retired/left the neonatal department, most notably Ms Hilda Wall. She is a huge loss to the neonatal department of NMH and will be deeply missed. We are very thankful for their dedicated service to NMH NICU and wish them all the best in their future endeavours. We are very grateful to our visiting consultants from Children's Health Ireland Crumlin and Temple Street for the service they provide in reviewing our babies and for their support and expert advice.

I would like to thank all of those who contributed to the writing of this report. The time and effort invested is enormous and is much appreciated. Lastly, we acknowledge all the parents and babies who passed through our NICU in 2023, and in particular, the 51 babies who sadly died in our care. They remain in our thoughts.

Dr Deirdre Sweetman, Consultant Neonatologist.

Jennifer Doyle, CNN1, NICU.

Neonatal Activity

Number of Admissions to the Neonatal Intensive Care Unit (NICU)

Year	2019	2020	2021	2022	2023
Number of Admissions	1579	1240	1243	1132	1202

Sources of Admission to the NICU

Year	2019	2020	2021	2022	2023
First admission for inborn infants	1417 (90%)	1107 (89%)	1059 (85%)	957 (85%)	1000 (83%)
-Delivery Ward	950	772	783	715	760
-Theatre	Inc. above	Inc. above	Inc. above	Inc. above	Inc. above
-Postnatal Ward	467	335	276	242	240
First admission for Outborn infants	38 (2%)	46 (4%)	60 (5%)	57 (5%)	28 (2%)
First admission from home	38 (2%)	30 (2%)	59 (5%)	48 (4%)	66 (6%)
Readmission from postnatal ward	41 (3%)	21 (2%)	15 (1%)	29 (3%)	41 (3%)
Readmission from other hospital	21 (1%)	12 (1%)	14 (1%)	11 (1%)	13 (1%)
Readmission from home	24 (2%)	24 (2%)	36 (3%)	30 (3%)	42 (4%)
Not Recorded	-	-	-	-	12 (1%)
Total	**1579**	**1240**	**1243**	**1132**	**1202**

Clinical Reasons for First Admission of Inborn and Outborn Infants

Clinical Reason	2019		2020		2021		2022		2023	
Respiratory	517	36%	399	35%	394	35%	405	40%	380	37%
Prematurity	204	14%	259	22%	248	22%	134	13%	145	14%
Gastroenterology	306	21%	189	16%	109	10%	81	8%	69	7%
Suspected/Proven Infection	139	9%	77	7%	111	10%	75	7%	82	8%
Small for Dates	73	5%	63	5%	81	7%	136	13%	138	13%
Congenital Anomalies	42	3%	30	3%	37	3%	30	3%	31	3%
Cardiac	42	3%	32	3%	41	4%	34	3%	29	3%
Birth Depression	27	2%	17	1%	17	2%	9	1%	4	<1%
Other Neurological	18	1%	12	1%	20	2%	11	1%	14	1%
Surgical	7	<1%	4	<1%	6	<1%	2	<1%	2	<1%
Haematological	28	2%	23	2%	14	1%	10	1%	6	1%
Other	52	4%	48	4%	41	4%	89	9%	128	12%
Total	**1455**		**1153**		**1119**		**1014**		**1028**	

Levels of Neonatal Care

Year	2019	2020	2021	2022	2023
Number of Intensive Care Days	1289	1105	1295	1208	1299
Number of High Dependency Care Days	3457	3134	3142	2659	3201
Number of Special Care Days	6882	5822	5440	4563	4646

*British Association of Perinatal Medicine. Categories of Care 2011 (August 2011). http://www.bapm.org/publications/documents/guidelines/CatsofcarereportAug11.pdf

Outpatient Clinic Attendances

Year	2019	2020	2021	2022	2023
Actual clinics	248	250	250	249	360
New patients (first visits)	2835	1669	1827	1784	1650
Return visits	608	861	1332	1031	1348
Total visits	**3443**	**2530**	**3159**	**2815**	**2998**

Summary of Infants reported to VON

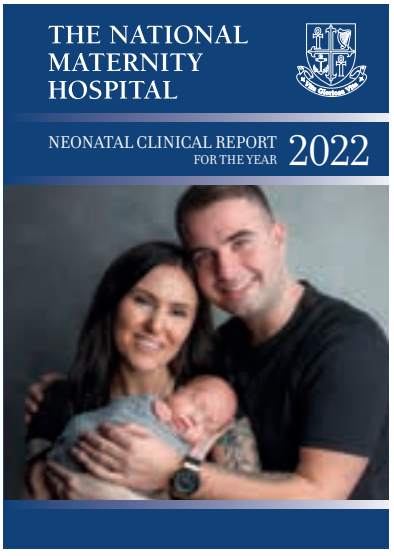
Year	All Cases	Number of cases excluding congenital anomalies
Infants < 401g but ≥22 wks gestation	0	0
Infants 401-500g	4	3
Infants 501-1500g	104	87
Infants > 1500g but ≤29 wks gestation	4	3
Total	**112**	**93**

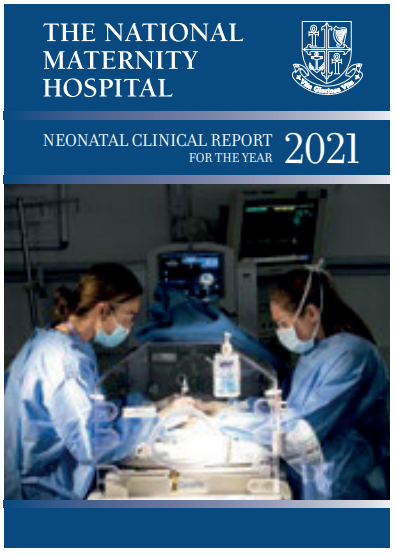
Survival Rate to Discharge of VLBW Infants reported to VON according to Gestational Age (n=112)

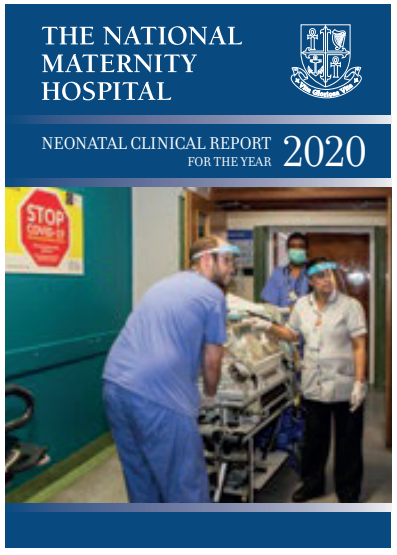
Gestational Age	Inborn Infants	Survival to Discharge	Outborn Infants	Survival to Discharge	Total Survival to Discharge
20 wks	0	0 (0%)	0	0 (0%)	0 (0%)
21 wks	0	0 (0%)	0	0 (0%)	0 (0%)
22 wks	1	0 (0%)	0	0 (0%)	0 (0%)
23 wks	6	1 (17%)	0	0 (0%)	1 (17%)
24 wks	5	3 (60%)	0	0 (0%)	3 (60%)
25 wks	17	6 (35%)	0	0 (0%)	6 (35%)
26 wks	11	8 (73%)	0	0 (0%)	8 (73%)
27 wks	14	8 (57%)	1	0 (0%)	8 (53%)
28 wks	9	8 (89%)	1	1 (100%)	9 (90%)
29 wks	9	7 (78%)	0	0 (0%)	7 (78%)
30 wks	5	4 (80%)	1	1 (100%)	5 (83%)
31 wks	7	7 (100%)	0	0 (0%)	7 (100%)
32 wks	11	10 (91%)	0	0 (0%)	10 (91%)
>32 wks	14	13 (93%)	0	0 (0%)	13 (93%)
Total	109	75 (69%)	3	2 (67%)	77 (69%)

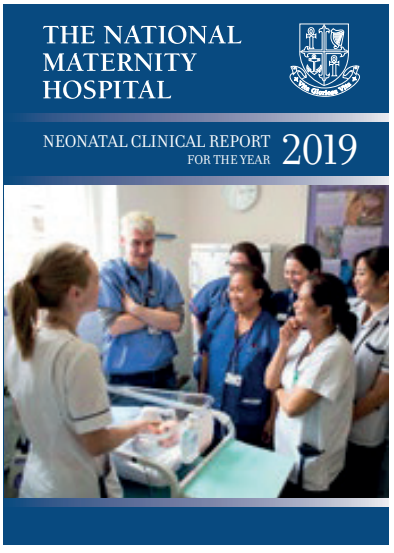
Survival Rate to Discharge of VLBW Infants reported to VON according to Birthweight (n=112)

Birthweight	Inborn Infants	Survival to Discharge	Outborn Infants	Survival to Discharge	Total Survival to Discharge
<501g	3	0 (0%)	0	0 (0%)	0 (0%)
501-600g	5	2 (40%)	0	0 (0%)	2 (40%)
601-700g	12	6 (50%)	0	0 (0%)	6 (50%)
701-800g	15	8 (53%)	0	0 (0%)	8 (53%)
801-900g	13	7 (54%)	0	0 (0%)	7 (54%)
901-1000g	11	8 (73%)	0	0 (0%)	8 (73%)
1001-1100g	6	5 (83%)	1	0 (0%)	5 (71%)
1101-1200g	5	3 (60%)	0	0 (0%)	3 (60%)
1201-1300g	9	8 (89%)	0	0 (0%)	8 (89%)
1301-1400g	11	10 (91%)	1	1 (100%)	11 (92%)
1401-1500g	16	16 (100%)	0	0 (0%)	16 (100%)
>1500g	3	2 (67%)	1	1 (100%)	3 (75%)
Total	**109**	**75 (69%)**	**3**	**2 (67%)**	**77 (69%)**


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2022

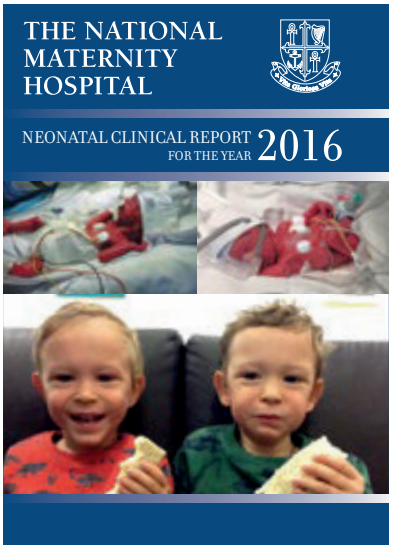

THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2021

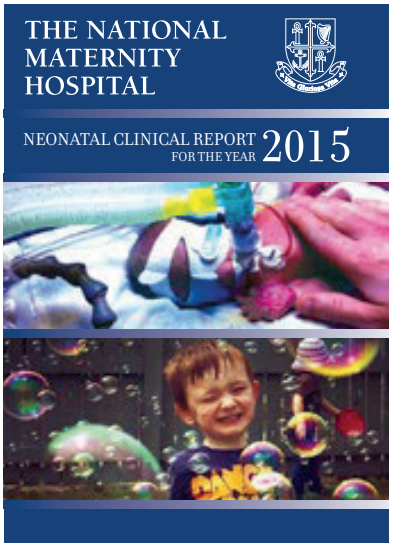

THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2020
STOP

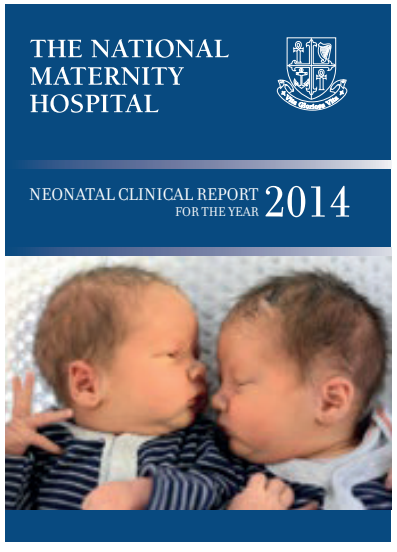

THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2019


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2018


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2017


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2016


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2015


THE NATIONAL MATERNITY HOSPITAL
NEONATAL CLINICAL REPORT FOR THE YEAR 2014

Speech and Language Therapy (SLT)

2023 saw the second full calendar year of the Neonatal SLT service. Zelda Greene is the Clinical Specialist SLT in Neonatology at the NMH and currently provides both inpatient and outpatient clinical services across a full working week.

Clinical Service Development is ongoing and still at an early stage. The SLT works with all members of the neonatal multidisciplinary team. In 2023 SLT recorded involvement for 130 inpatients and 61 outpatients. 76 of these were high risk infants (<30-32 weeks/<1500g). Average time spent per inpatient was 44 minutes, average time spent per outpatient was 79 minutes. SLT remains fully engaged with the development of the ACORN (Allied Care Of At Risk Newborns) developmental programme for our high risk babies both inpatients and outpatients (see separate section). We were delighted to welcome our new Senior Occupational Therapist (OT), Ms Aoife Tonge, to the team in April. In June in conjunction with OT and Dietitians we established an online class for parents called 'Introduction of Solids and Textures to your baby after the NICU'. This was in response to a rise in detection of feeding difficulties by the new MDT in our high risk babies post discharge. There were 5 classes from June –Dec 2023 and 34 parents attended. SLT continues to contribute to in house teaching and initiatives on the neonatal unit and was an active supporter of the many events that occur annually including kangaroo care week, world prematurity day, world book day. The Neonatal Baby Bookworms bookclub goes from strength to strength and this year the unit participated in an international NICU readathon in Sept, kindly supported by the NMH foundation.

Education: Zelda continues in her role as adjunct assistant professor in the School of Clinical Speech and Language Studies at Trinity College and this year supported 3 postgraduate SLT students (Jessica Devlin, Alice Minuiti, Eoghan Lonergan) who attended for clinical placement at the NMH. The NMH also welcomed our first undergraduate SLT student from TCD, Ms Eimear Lee, who successfully completed her 8-week final year clinical placement in the NICU. Zelda also contributes to teaching on the MSc course in TCD on neurodevelopmental assessment of feeding and swallowing and in assessment and management of paediatric tracheostomy.

Teaching/Presentations: In Feb 2023 Zelda was invited to give a webinar for the Irish Association of Speech and Language Therapists (IASLT) 'Building the Neonatal Service at the NMH' for which there were over 100 attendees. A number of SLT specific posters were presented at RISE in April: 'Effects of Oral Stimulation for Oral Feeding in Preterm Infants' and 'Eligibility for Speech and Language Therapy (SLT) Service on an Irish Neonatal Intensive Care unit: a prospective audit'.

In May the inaugural Irish Neonatal Therapy Study day was hosted at the NMH by the NICU developmental team with contribution from SLT. On 28 September Zelda presented in person to the London Neonatal Therapy Study Day about 'Oral Stimulation for Oral Feeding in Preterm Infants: thoughts on evidence and feasibility'. This was also accepted as an oral presentation at the European Society of Swallowing Disorders in Toulouse in December. As an active member of the Dublin Infant Mental Health Learning Network Zelda presented at their November meeting about 'Navigating Mealtimes: Supporting Feeding Skills in Babies and Young Children'. Also in November Zelda delivered an oral presentation to the IASLT National conference 'Contribution of Speech and Language Therapy (SLT) in Establishing a Neonatal Developmental Follow up Pathway at the National Maternity Hospital (NMH) Dublin'.

Zelda Greene MSc, Clinical Specialist SLT in Neonatology.

Neonatal Occupational Therapy (OT)

In April 2023 Aoife Tonge, Senior Occupational Therapist, joined the Neonatal team at NMH to roll out an occupational therapy service for our NICU inpatients and outpatients alongside our wonderfully dynamic and pioneering team of allied health professionals, nurses and doctors in NMH. There is a blanket referral system for all infants born <32 weeks or < 1500kg, and infants with neurological, developmental or social concerns. Parent education and participation in parenting roles on the NICU has been a primary focus of OT interventions on the NICU to date, in addition to optimising the sensory environment for infants, parents and staff, and participation in the ACORN MDT service on the NICU. The ACORN service (Allied Care of at Risk Infants, established Feb 2022) incorporates assessing and supporting infants motor skills, positioning, communication, oral-motor skills, behavioural regulation, neurological development, and parent-infant attachment. The OT out-patient service has provided developmental follow-up services in line with the ACORN Pathway in addition to specific functional/sensory assessments and therapeutic interventions (e.g. Screening Hand Assessment for Infants, Infant Toddler Sensory Profile, online mealtime observations with SLT/ OT/Dietetics) supporting intervention planning and onward referral to community services as appropriate. Key to service development initiatives for 2024 is the evolution of family integrated care and supporting infant mental health.

Aoife Tonge, Senior Occupational Therapist.

Neurodevelopmental Follow-Up Report

Neurodevelopmental Follow-up of Infants Born Preterm and Term

Children born preterm have higher risks of neurodevelopmental and behavioural disabilities in the first years of life and throughout childhood and adolescence compared with children born term. Hence our continued follow-up programme. To date in NMH our neurodevelopmental follow-up of infants born preterm has included all infants born ≤1500g and/or ≤29+6 weeks (both inborn and outborn). It now spans 24 years from 1997- 2021. Our follow-up of term infants diagnosed with neonatal encephalopathy (NE) at birth is in its 14th year. The Bayley Scales (Bayley-III) which is one of the most widely used standardised tools for the assessment of neurodevelopment in early childhood is our key and preferred measurement of developmental outcome in these cohorts being face-to-face assessments.

The PARCA-R – a parent report questionnaire was used for 4 families (one returned questionnaire /3 unreturned) this year unlike the previous two years as most families opted for the Bayley Assessment. The families using the PARCA-R did not wish to travel to Dublin for a Bayley assessment due to the distance to travel and being very happy with their child's development to date. The PARCA-R accepts that parents are good judges of their child's current abilities. It assesses cognitive and language development from 23.5 – 27.5 months of age. Unfortunately, the PARCA-R does not have a motor scale. Hence, motor follow-up was by discussion with the child's parents similar to the Ages and Stages Questionnaire.

This year there has been a slight change in terms of trying to facilitate follow-up nearer to the children's homes to save travelling long journeys for their assessment. In 2022 the NWIHP (National Women and Infants Health Programme) formed the National Neonatal Psychology Forum to support the national roll out of the Bayley III assessment. The aim of this forum was to develop appropriate pathways to accommodate the Bayley III assessment in the infant's catchment area to minimise disruption and travel for infants and their families. Three psychologist posts were created in Cork, Limerick and Galway. The NMH preterm and term infants who resided in these catchment areas were subsequently referred for followup as per catchment area. The assessment outcomes for these babies will be accessed for our VON database.

Infants born preterm are assessed at two years' corrected age. Term infants presenting with Neonatal Encephalopathy are assessed at two years' chronological age. An assessment at two years of age (2 years' corrected age for preterm infants) is the optimum time to measure cognitive, language and motor outcome when following up these cohorts.

Preterm Group

In the NMH preterm cohort who presented for assessment, 31 children (35%) were from the Dublin area. The remaining 58 (65%) children lived outside the Dublin area travelling from as far as Donegal (3 children), Mayo/Sligo (8 children), Wexford (10 children) and spanning counties Longford, Offaly, Kilkenny, Cavan, Westmeath, Meath and Wicklow. Two children were from Northern Ireland.

A total of 89 NMH preterm infants born ≤1500g and/or ≤29 weeks, gestation, and 10 NMH term infants with Neonatal Encephalopathy, were listed for follow-up in 2023 in NMH. As per the National Neonatal Psychology Forum, 10 preterm babies were referred for assessment within their catchment location, meaning 79 babies were scheduled for assessment in NMH.

Of these 79 babies, 71 attended for a formal Bayley assessment in NMH. One family completed a PARCA-R Questionnaire with their Public Health Nurse. Five families (one with twins) declined an assessment meaning 6 babies were not formally assessed but were followed up by phone call. Of these 6 babies, one baby had severe developmental delay, and two babies moderate delay (twins). All 3 were attending Early Intervention Services. The other 3 infants were all doing well, one exceptionally well. Seventy-two babies had a formal follow-up (90%) and 6 babies an informal follow-up (7.6%). One assessment is still pending.

The outcome score for the PARCA-R baby indicated extreme cognitive and language delay.

Table 1 outlines the outcome of our preterm population who were assessed using the Bayley Scales. These preterm children did well overall (84.5%) showing good outcome in terms of their Cognitive Development. 7% performed within the Very Superior / Superior Range, 18.3% performed within the High Average Range, 59% performed within the Average Range, and 1.4% within the Low Average Range. There was some Cognitive Delay in that 7% showed Moderate Delay (Borderline Range) and 7% showed Extreme Delay.Language Outcomes were improved compared to last year's (2022) outcomes, although 18.3% showed extreme language delay and 22.5% showed Mild-Moderate Language Delay (Low Average/Borderline Range) indicating that Language Delay is a risk factor for this cohort of children. Only 55% performed within the Average /High Average Range in comparison to 77.5% for Cognitive Outcomes. While the COVID-19 pandemic may have been a factor, these results reflect previous pre-Covid outcomes and are more likely representative of the impact of prematurity as opposed to COVID-19.

When the Motor Outcomes were examined, it was very encouraging to see that 70% of the children were performing within the Average/High Average Range. In all, 17% showed Mild-Moderate Motor Delay and 11.3% showed Extreme Delay. For children to score well on this scale they need to be running with good coordination, kicking a small ball well and be able to ascend/ descend steps independently all tasks associated with Gross Motor performance. Children who perform well on this scale also listen well and follow the task commands well.

The outcomes in the table above represent the Composite Scores. Composite scores are a transformation of a distribution of scores and have a given mean and standard deviation showing how far an individual's score is from the mean or average score. These give a general overview of the results and are the scores that are used when reporting outcomes for most audit reviews and research studies. However, valuable information can be lost. The Composite Scores can sometimes mask Expressive Speech Delay and Gross Motor Delay if the Receptive Scores and Fine Motor Scores are high. When examining these results, it is also important to look at the Scaled Scores that make up these Composite Scores. For example, the Receptive and Expressive Communication Scales make up the Composite Language Score and the Fine Motor and Gross Motor Scales make up the Composite Motor Score. Please see below the classification for the scaled scores.

Bayley Scaled Scores are divided into the following ranges:
- 16-19: Superior Performance
- 13-15: High Average Performance
- 8-12: Average Performance
- 5-7: Mild Delay
- 1-4: Moderate-Severe Delay

Looking at Table 2, using scaled scores to interpret the outcomes, there was a great improvement in terms of Average score outcomes for Expressive Communication Skills at 52% in 2023 compared to 31% in 2022. There was a slight improvement in Receptive Communication Skills at 53.5% in 2023 compared with 49% in 2022. Expressive Speech Delay remained higher than Receptive Language Delay at 39% versus 34%. A total of 15.5 % showed Moderate - Extreme Receptive and Expressive Speech Delay respectively. These figures indicate that a total of 34% of children were below average on the Receptive Communication Scale compared to 39% on the Expressive Communication Scale which is a big improvement on last year's outcomes at 52% delay for the Expressive Communication Scale. If it is recommended that any preterm infant who is performing below average at 2 years of age would benefit from intervention, then 39% of our preterm cohort in 2023 meet the criteria for access to speech and language therapy.

In terms of Motor Outcomes, Gross Motor Outcome was very good with 66% of the children performing within the Average Range. Fine Motor Skills were represented as an area of strength within the Motor scale with 28% of children performing within the Superior /Very Superior Range compared with 1.4% for Gross Motor performance. There was more Mild / Moderate – Severe Gross Motor Delay than Mild Fine Motor Delay (18.3% vs 7%). A total of 14.1% of infants showed Moderate-Severe Gross Motor Delay compared with 10% Fine Motor Delay. In summary, by analysing the scaled scores, it is evident that delays in gross motor skills were more prevalent than delays in fine motor skills in our preterm population and delays in expressive communication skills were more common than delays in receptive communication skills. Expressive speech delay and gross motor delay can present as co-morbidities in this cohort of children (11.3% within this 2023 follow up) when cognitive, receptive, and fine motor skills fall within the normal range.

15.5% of the total group showed global developmental delay (6 children within the severe delayed range, 3 within the moderate delayed range and 2 within the mild delayed range).

Neonatal Encephalopathy Group

Of the 10 term babies with Neonatal Encephalopathy listed for assessment, 7 were assessed in NMH using the Bayley Scales. One baby could not be located. Of the two babies listed for the National Psychology Neonatal Forum, one baby was assessed by their local Early Intervention Team and was reported as having normal cognitive and language development but was toe walking indicating mild motor concerns. The second family declined the assessment as parents were happy with their child's progress. See Table 3.

Table 4 outlines the outcomes for our NE Babies who were assessed using the Bayley Scales in NMH. These children did well overall with 5 children (71.4%) showing a very good outcome in terms of their Cognitive Development. One child performed within the Very Superior / Superior Range, 2 children performed within the High Average Range, 2 within the Average Range, and 1 within the Low Average Range. There was some Cognitive Delay in that 1 child showed Moderate Delay (Borderline Range) and 1 child showed Extreme Delay.

In terms of Language Outcomes, 3 children performed within the Average / High Average Range, while 4 children showed Language Delay (2 children within the Severe Delayed Range).

When the Motor Outcomes were examined, it was very encouraging to see that 6 children were performing within the Average/High Average / Superior Range. One child showed Moderate Motor Delay and 1 child Extreme Delay.

From Table 5 of results presented below, you can see that 71% (5/7 children) performed within the Average / Above Average Range. Outcomes for Receptive Communication Skills were better than for Expressive Communication Skills with 57% (4/7) children showing Average /Above Average Performance compared with 28.6% (2/7 children) for Expressive Communication Skills. There was more Expressive Speech Delay at 71% (5/7) than Receptive Delay at 42.8% (3/7 children).

In terms of Motor Outcomes, 71% (5/7 children) performed within the Average/ Above Average Range for both scales, Fine Motor and Gross Motor which was a good outcome. Two children per each scale showed Moderate to Severe Delay (28.6%). One needs to note that these outcomes represent a small cohort of NE babies (N=7).

What are the Bayley Scales of Infant and Toddler Development (Bayley-III)?

The Bayley-III is an ability test of global development. It comprises of a series of play tasks and language stimulus books broken up into 3 composite scales with 5 sub-categories – cognitive development (**Cognitive Scale**), receptive and expressive communication (**Language Scale**) and fine motor and gross motor development (**Motor Scale**). It can classify delayed or advanced development within the specific sub-categories. The assessment session can take 2 hours or more to complete depending upon toddler cooperation, duration of assessment feedback and discussion with parents. The process can be tedious as the children are only 2 years of age, active and busy. It can be demanding when children are tired or challenged (especially for those travelling for more than 2-3 hours for the assessment). During the testing session, the child's emotional and behavioural reactions are noted. A full report is documented. The scores generated allow for a comparison between a child's performance over time and in relation to peers of the same age range. The scale identifies children with developmental delay and hence provides information for intervention planning.

What is the PARCA-R (Parent Report of Children's Abilities–Revised)?

The PARCA-R is a standardised, UK normreferenced assessment of children's cognitive and language development at 24 months of age. It can assess a child's developmental level and can classify delayed development of any severity as well as advanced development. The children need to be assessed at 23.5 to 27.5 months to derive the standardised scores. There are separate scores for Non-Verbal Cognition and Language. The outcomes, 'above average', 'average', 'mild', 'moderate' and 'severe delay' can be calculated as used in conventional standard deviation (SD-banded) cut-offs. It is available in 14 languages. The PARCA-R is free and is immediately available to download www.parca-r.info.

Since its first validation study was published in 2004, it has been used as an outcome measure in clinical trials, observational studies, and as a screening tool in child development clinics and neonatal follow-up services. The PARCA-R is a well-researched tool that took 20 years to develop. It was the popular substitute for the Bayley Scales during the pandemic. It has been recommended by the NICE Guidelines as an assessment tool to screen for developmental delay. It has validity and reliability ratings providing standardised scores. It has been accepted as producing standard scores similar to other IQ/ developmental tests. It has been favourably compared with the Bayley-III.

Extreme Preterm Birth

Extreme preterm birth can be associated with high rates of adverse neurodevelopmental outcomes including cognitive impairment (low IQ - especially non-verbal, poor working memory, slow processing speed and deficits in executive functions), attention problems/ADHD, peer relationship problems/Autistic Spectrum Disorder, anxiety/emotional disorders and physical disability as well as subtle learning difficulties. Neurosensory issues are increasingly recognised. The preferred Bayley assessment enables the clinician to identify specific developmental delays, early signs of poor attention skills, poor auditory processing skills, poor sensory integration skills and poor motor/ coordination skills. All of these factors are relevant in terms of later classroom performance. The process of administering the scale alone generates valuable information about a child's learning potential. Identifying and managing these issues at an early age is important to facilitate optimum long-term outcome. The assessment experience is also educational for parents as it gives them an insight into the range of developmental activities from which their child can benefit. The process can strengthen a child's potential by bringing about a change in parent attitude, knowledge and behaviour. Providing Bayley Assessments is a valuable service in terms of assessing two-year outcomes for preterm babies and the data is used to counsel parents when their babies are admitted to the Neonatal Intensive Care Unit (NICU).

Over the years we have noted that attention and sensory processing skills are two notable challenges for the preterm child, who despite having a good outcome, is not achieving his/her potential in terms of learning and language development. We looked at a home intervention programme to address these issues in a small cohort of infants. Our research paper titled 'Therapeutic Listening for Preterm Children with Sensory Dysregulation, Attention and Cognitive Problems' was published in January 2020.[1] The research showed this home intervention programme to be a feasible intervention for preterm children improving their attention levels and sensory processing skills. These skills, as we know, are very important for future learning and language development. We are continuing to research these issues so that we can get a better understanding of the needs of our preterm population in terms of attention and sensory processing skills.

Neonatal Encephalopathy (NE) Diagnosis

The National Neonatal Encephalopathy collaborative is of increasing importance for term infants, particularly since the advent of therapeutic hypothermia (January 2009). Outcome for this group of infants is improving since the introduction of therapeutic hypothermia as evidenced by our follow-up and international studies. However, we have seen from our small cohort over the years that neonatal encephalopathy impacts neurodevelopmental outcomes, and that outcome is mainly determined by the extent of injury to the brain. In a NMH retrospective study looking at developmental outcomes in a cohort of 115 NE infants from 2009-2016, developmental delay was greater in the infants with abnormal MRI brain scans compared to those with normal MRIs. In the cohort of infants with normal MRIs, language

delay was 27%, motor delay was 9% and cognitive delay was 9%. In the cohort of infants with abnormal MRIs, language delay was 48%, cognitive delay was 40%, and motor delay was 30% indicating a marked difference[2]. High seizure burden was also associated with poor outcome.

In the Neonatal Therapeutic Hypothermia in Ireland Annual Report 2020 (national aggregate report 2016-2019)[3], Bayley outcome follow-up data for 85 children showed that 26% had Gross Motor Delay, 21% had Receptive Language Delay, 21% had Expressive Language Delay,16% had Cognitive Delay, and 12% had Fine Motor Delay. This was a broad outcome measure without reference to MRI outcomes or degree of encephalopathy.

From the data presented above, neonatal encephalopathy that is treated with therapeutic hypothermia but not followed by severe impairments such as CP, can still be associated with impairments in sensory regulation, cognitive, motor, language and educational outcomes. Hence, we need to structure our neonatal encephalopathy follow-up to identify the best interventions both in the NICU and during the recovery and development of this highly vulnerable group of infants. As these children are at 'high risk' of potentially modifiable neurodevelopmental sequelae, they should be enrolled in neonatal follow-up programmes such as in our recently introduced NMH ACORN Programme. It is hypothesized that the NE children who achieve a normal Full-Scale IQ at 4 years of age (WPPSI-IV) can still have poorer performance with regard to Verbal Information and Processing Speed Skills compared with children without NE.

Why are we doing these assessments?

Great advances have been made in neonatal intensive care over the past decade. Survival of infants born at 23 weeks, gestation is now increasingly reported. Unless we measure our neonatal outcomes, we cannot hope to make improvements in the care we provide. These assessments are also an important service for our babies and their families. The parents receive a detailed copy of their child's report. Copies of the report, if requested by the family, may be sent to other clinicians who are involved in the care of their child.

Professional resources continue to be very limited for those children requiring developmental intervention such as speech therapy, physiotherapy and occupational therapy. This was particularly evident during the Covid pandemic when many children did not receive any follow-up at all. Waiting lists continue to be long. There is often no service available when a therapist is on leave. There was a lack of consistency in how publicly funded services were provided throughout the country. This was addressed by the launch of a National Policy on Access to Services which was approved by the HSE in September 2021 to ensure more equitable access to services for children in need and to Children Disability Network Teams (CNDTs). The CNDT has replaced existing disability teams provided by Enable Ireland, the Health Service Executive (HSE) Early Intervention Teams and School-Aged Assessment Teams, St. Catherine's Association, St. John of Gods Services and St. Michael's House. Unfortunately, as reported in the Irish Times on 3rd March 2023, over one third of these services approved posts remains vacant. In 2022 there were more than 700 vacancies across the country's 91 CDNTs. In June 2023 these vacancies were still apparent and continue to be an ongoing issue.

We need to improve educational outcomes. Neurodevelopmental outcomes do not appear to be improving despite improved survival and neonatal care. In a UK survey, carried out in 2020, more than 90% of 426 families reported that there should be more awareness and understanding of the educational needs of children born preterm. Impairments in speech and language impact negatively on academic learning and executive functioning skills during the school years. Recognising these challenges, the PRISM E–learning resource programme4, consisting of 5 x1 hours sessions, with interactive multimedia content, has been devised for educational professionals in the UK.[4] The sessions examine preterm birth, educational outcomes, cognitive outcomes, behavioural outcomes and social and emotional outcomes. It outlines strategies to support children with inattention, working memory difficulties, slow processing speed, poor visuospatial skills, social and emotional problems and mathematics difficulties. There is a need to bridge the gap between healthcare and education to determine what support children and families need, to understand the factors that contribute to attainment after preterm birth and to develop and evaluate intervention programmes.

Our newly appointed neonatal speech and language therapist (SLT) took up her post in November 2021. The importance of such a role was highlighted in the HSE Model of Care document and the NICE Guidelines.5 A speech and language therapist working with parents during the neonatal period and for the first two years is now deemed an essential service for children born preterm. The support of an SLT is vital for children struggling with feeding or who present with speech and language delays. We know that preterm infants who have had early feeding problems are more likely to have language impairment, some with lasting effects into childhood and adolescence. Although preterm infants will not speak for a few years, elements of their care in the NICU may impact on their speaking ability over the long-term. Of our preterm group who were followed-up in 2022, 52% showed an expressive speech delay at least one standard deviation or more below the mean (score <85) while 31% had a receptive speech delay. The extent of language delay as a problem in preterm infants is often underappreciated, as many centres, including ours, primarily report on composite cognitive and motor scores as opposed to language scores. Our data support the need for early speech

and language therapy input commencing in the NICU. Our SLT now works with parents to initiate and develop their child's attention and listening skills, play skills, their comprehension and expression of language (combining words to make sentences), and their speech articulation, all which contribute to language development. Please note that our speech and language therapist was not working in the NICU for this cohort of preterm infants who were followed up in 2022.

For our cohort of children, born preterm (<+1500g/or at 29+6 weeks) and term with neonatal encephalopathy, the NICE Guideline NG72 provides a very comprehensive outline of the biomarkers for delay and the need for follow-up at 2 years and 4 years of age respectively.[5] We have introduced the ACORN Programme to ensure all our Very Low Birth Weight Infants receive early intervention while in NICU and during their first 2 years post discharge within the Dublin area. However, these babies are not yet being seen at 4 years of age, which should be our next goal, if we wish to better support their school life and learning potential, and their social and emotional development.

We are not formally assessing moderate (32-33 weeks >1500g) or late (34-36 weeks) preterms. This may be something we should consider going forward as recently published in the British Journal of Medicine[6] 2024. The population cohort (diagnosed up to 16 years of age) was a national study of nearly 1.5 million (1,496 950 births exactly) births recorded in Sweden from 1998 – 2012. Birth weight was by centiles so more difficult to comprehend. The study concluded that children born moderately or late preterm have higher risks of adverse neurodevelopmental outcomes when compared to term infants. As these children compromise the largest proportion of children born preterm these risks should not be underestimated. The PARCA-R screening tool discussed above would be a good start for follow-up within this cohort of moderate to late preterms to measure potential cognitive or language delay.

Zelda Greene, Speech & Language Therapist (left), and Joanne Egan, Neonatal Physiotherapist (right) with Saida Guechairimust and her son Ahmed, a NICU and ACORN graduate who joined us for World Prematurity Day 2023.

1. Neonatal Therapeutic Hypothermia for Neonatal Encephalopathy: Mortality and Neurodevelopmental Outcome
   B.D. Power, M. Slevin, V. Donoghue, D. Sweetman, J.F.A. Murphy
   The National Maternity Hospital, Holles Street, Dublin, Ireland. Ir Med J; 2021: Vol 114; No. 2; P264
2. San Lazaro Campillo I, McGinley J, Corcoran P, Meaney S, McKenna P, Filan P, Greene R, Murphy J on behalf of Neonatal Therapeutic Hypothermia Steering Group. Neonatal Therapeutic Hypothermia in Ireland, Annual Report 2016-2020
3. PRISM-e learning. Premature Infants Skills in Mathematics. Preterm Birth Information for Educational Professionals. www.pretermbirth.info
4. Developmental follow-up of children and young people born preterm. National Institute for Health and Care Excellence: NICE Guidelines: [NG72] 2017. https://www.nice.org.uk/guidance/NG72
5. Neurological Development in Children Born Moderately or Late Preterm: national cohort study.
   Mitha A, Chen R, Razaz N, Johansson S, Stephansson O, Altman M, Bolk J. BMJ 2024;384:e075630

Marie Slevin, Developmental Psychologist.

Table 1: Bayley Composite Scores using Bayley Classification for Composite Cognitive, Language and Motor Outcomes: Preterm Infants born in 2021; Assessed in 2023 (n=71).

Composite Scores	Cognitive Scale (No.)	%	Language Scale (No.)	%	Motor Scale (No.)	%	Interpretation
≥ 130	4	5.6%	0	0%	1	1.4%	Very Superior
120-129	1	1.4%	3	4.2%	0	0%	Superior
110-119	13	18.3%	5	7.0%	16	22.5%	High Average
90-109	42	59.1%	34	47.9%	34	47.9%	Average Range
80-89	1	1.4%	6	8.5%	7	9.9%	Low Average
70-79	5	7.0%	10	14.1%	5	7.0%	Borderline
≤ 69	5	7.0%	13	18.3%	8	11.3%	Extreme Delay
Total	**71**	**100%**	**71**	**100%**	**71**	**100%**	

Table 2: Bayley Scaled Score Outcomes for Cognitive (Cog), Receptive (RC) and Expressive (EC) Communication Skills (Language Scale) and Fine (FM) and Gross (GM) Motor Skills (Motor Scale) for our Preterm Infants Born in 2021; Assessed in NMH in 2023 (n=71)

Scaled Scores	Cog Scale	%	RC Scale	%	EC Scale	%	FM Scale	%	GM Scale	%	Outcome
16-19	4	5.6%	0	0%	1	1.4%	4	5.6%	1	1.4%	Superior
13-15	8	11.3%	9	12.7%	5	7.0%	16	22.5%	0	0%	High Average
8-12	48	67.6%	38	53.5%	37	52.1%	39	55%	47	66.2%	Average
5-7	4	5.6%	13	18.3%	17	23.9%	5	7.0%	13	18.3%	Mild Delay
1-4	7	9.9%	11	15.5%	11	15.5%	7	9.9%	10	14.1%	Moderate-Severe Delay
Total	**71**	**100%**	**71**	**100%**	**71**	**100%**	**71**	**100%**	**71**	**100%**	

Table 3: Neurodevelopmental Outcomes using Bayley Scores for the Neonatal Encephalopathy Cohort Born in 2021: Assessed in 2023 in NMH. All Babies received Therapeutic Hypothermia

Case	Classification	Cog	RC	EC	FM	GM	COG	LANG	MOTOR	Outcomes
1	HIE Severe Grade 3 Seizures MRI Normal	11	8	7	12	11	105	86	110	Cognitive + Motor Normal Mild Speech Delay
2	HIE Moderate Grade 2. MRI Normal	13	12	12	15	13	115	112	124	High Average Performance
3	HIE Mild Grade 1 MRI Normal	1	1	1	1	1	55	50	46	Severe Delay Globally
4	HIE Mild /Mod Grade1/2 . MRI Abnormal	19	16	6	10	17	145	106	121	High Performance Except for Mild Speech Delay
5	HIE Moderate Grade 2 MRI Normal	13	14	12	11	11	115	118	107	Cog + Language High Average Motor Normal
6	HIE Severe Grade 3/4 Seizures . MRI Normal	4	5	4	6	6	70	68	76	Moderate / Mild Delay
7	HIE Severe Grade 3/4 Seizures . MRI Normal	10	6	5	12	8	100	74	100	Cog + Motor Normal Language Mild Delay

Table 4: Bayley Composite Scores using Bayley Classification for Cognitive, Language and Motor Outcomes for Term Infants with Neonatal Encephalopathy born in 2021; Assessed in 2023 (n=7).

Composite Scores	Cognitive Scale (No.)	%	Language Scale (No.)	%	Motor Scale (No.)	%	Interpretation
≥ 130	1	14.3%	0	0%	1	14.3%	Very Superior
120-129	0	0%	0	0%	2	28.6%	Superior
110-119	2	28.6%	2	28.6%	1	14.3%	High Average
90-109	2	28.6%	1	28.6%	2	28.6%	Average Range
80-89	0	0%	1	14.3%	0	0%	Low Average
70-79	1	14.3%	1	14.3%	1	14.3%	Borderline
≤ 69	1	14.3%	2	28.6%	1	14.3%	Extreme Delay
Total	**7**	**100%**	**7**	**100%**	**7**	**100%**	

Table 5: Bayley Scaled Score Outcomes for Cognitive (Cog), Receptive (RC) and Expressive (EC) Communication Skills (Language Scale) and Fine (FM) and Gross (GM) Motor Skills (Motor Scale) for our Term Infants with Neonatal Encephalopathy Born in 2021; Assessed in NMH in 2023 (n=7)

Scaled Scores	Cog Scale	%	RC Scale	%	EC Scale	%	FM Scale	%	GM Scale	%	Outcome
16-19	1	14.3%	1	14.3%	0	0%	0	0%	1	14.3%	Superior
13-15	2	28.6%	1	14.3%	0	0%	1	14.3%	1	14.3%	High Average
8-12	2	28.6%	2	28.6%	2	28.6%	4	57.1%	3	42.8%	Average
5-7	0	0%	2	28.6%	3	42.8%	1	14.3%	1	14.3%	Mild Delay
1-4	2	28.6%	1	14.3%	2	28.6%	1	14.3%	1	14.3%	Moderate-Severe Delay
Total	7	100%	7	100%	7	100%	7	100%	7	100%	

Neonatal Discharge Planning

The Neonatal Discharge Planning servicecontinues to play a vital part in the care of the high risk infant and family in the Neonatal Unit by streamlining each infant's discharge. This has been achieved by supporting and building a rapport with the family from admission until discharge and thereafter. The service offers support to parents as well as anticipating their needs pre and post discharge home. The Clinical Nurse Specialist (CNS) collaborates early with the multidisciplinary team (MDT) and Community Support Services so that the best possible support is made available to the high risk infant and their family while an inpatient and post discharge home. The service is represented on the Prime B – Breastfeeding and Infant Mental Health hospital committees.

Caseload & Activity

High risk infants include all preterm infants with birth weight <1500g or <32 weeks' gestational age, infants with Neonatal Abstinence Syndrome, complex social admissions, life-shortening Illnesses, those requiring palliative care as well as infants with congenital abnormalities and brain injury.

Total discharges involving CNS: 235
Phone contacts: 600

Training and Education

Staff are continually updated and advisedregarding changes to discharge policies and procedures. Students, midwives, NCHD's, Allied Health Professionals and Student Public Health Nurses are also updated by the CNS.

At RISE 2023, Ciara Murphy CNS had an Innovation Poster selected for display entitled "Facilitating Early Discharge Home of Haemodynamically Stable Preterm Infants with Specialist Nursing Support and Follow Up: A Quality Improvement Initiative"

Education and Information

A Basic Life Support class and preparing for home class is regularly provided and also available online for families and carers of high risk infants and also on 1:1 basis.

Frankie Bemister.

- Follow up calls are made to parents following their infant's discharge providing advice and support to families.
- Continues to be the link person with the HSE appointed Northgate Hearing Screening Service that provide a national hearing screening programme for all infants.
- Chairs the Inter Hospital Neonatal Clinical Nurse Specialist Group
- Involved in Quality Improvement Initiatives in promoting Family Centred Care and early breastfeeding in the NICU and sustaining breastfeeding on discharge home.
- Initiating and attending MDT meetings for vulnerable babies and their families.
- Involved with developing Parent Questionnaire for the Neonatal Intensive Care Unit.

Caroline McCafferty/Ciara Murphy CNS Neonatal Discharge Planning Coordinators.

ACORN (Allied Care Of at Risk Newborns)

The ACORN team is multidisciplinary consisting of Physiotherapy, Speech and Language Therapy (SLT), Occupational Therapy, Dietetics, Medical Social Work (MSW), Pharmacy, and Psychology. The team works with the neonatal medical and nursing teams to provide care to high risk infants both in the NICU and after discharge in the NMH catchment area. In 2023, the neonatal team welcomed a new Senior Occupational Therapist (OT) who is now part of the ACORN team also.

Inpatients

Multidisciplinary team focusing on family integration and joint goal setting for each infant's care continued in 2023. There were 32 ward developmental rounds where 29 infants and families participated and of these, 11 infants were reviewed more than once.

ACORN Outpatients

The ACORN outpatient clinic is a multidisciplinary clinic for high risk infants in the NMH. The team provides specialist assessment, advice and intervention and onward referral to appropriate community services if required. The team has been developing a post discharge pathway for high risk preterm infants which may in time act as a national template for services.

Education and Research

The team has been actively involved in disseminating information and seeking peer support by attending study days and research meetings. Activity includes:- Oral presentations at Irish Neonatal Society research day and at the NMH in-house research and innovation study day (RISE) and at the 8th Annual Neonatal Allied Health Professionals Conference in London

- 'The ACORN Programme: Establishing a Neonatal Developmental Inpatient Ward round at the National Maternity Hospital'
- 'Review of Year One of ACORN Clinic: Post Discharge Developmental Surveillance of Very Low Birth Weight Low Gestational Age Infants' 2 oral presentations and 2 posters by the team at the 8th annual Neonatal AHP Conference in London in September
- Invited speakers for Infant Mental Health week at Children's Health Ireland about the ACORN team initiative and developmental ward round in a neonatal unit

The team were proud to establish and host the inaugural 'Irish Health and Social Care Professions (*HSCP*) in Neonatal Care' Study Day in May which saw 50 HSCP professionals working in Irish neonatal units come together to share research and experiences of service delivery

ACORN Initiatives

- Launch of a new online parent class for 'Introduction of Solids and Textures to your baby after the Neonatal Unit' delivered by SLT, OT and dietitians monthly for all high risk parents after discharge from NICU
- November THRIV-E (pilot project) – post NICU discharge parent and infant developmental classes led by physio and occupational therapy
- The team continues to participate in ongoing initiatives including the 'baby bookworms book club' and the online physiotherapy parent class 'Little Feet Big Steps' post discharge for all NICU parents supporting infants' development post discharge
- The team has ongoing contributions to Breastfeeding initiatives in the neonatal unit such as the PRIME and PRIME B research studies and events for World Breastfeeding Week, Kangaroo care week and World Prematurity Day.

The ACORN Team.

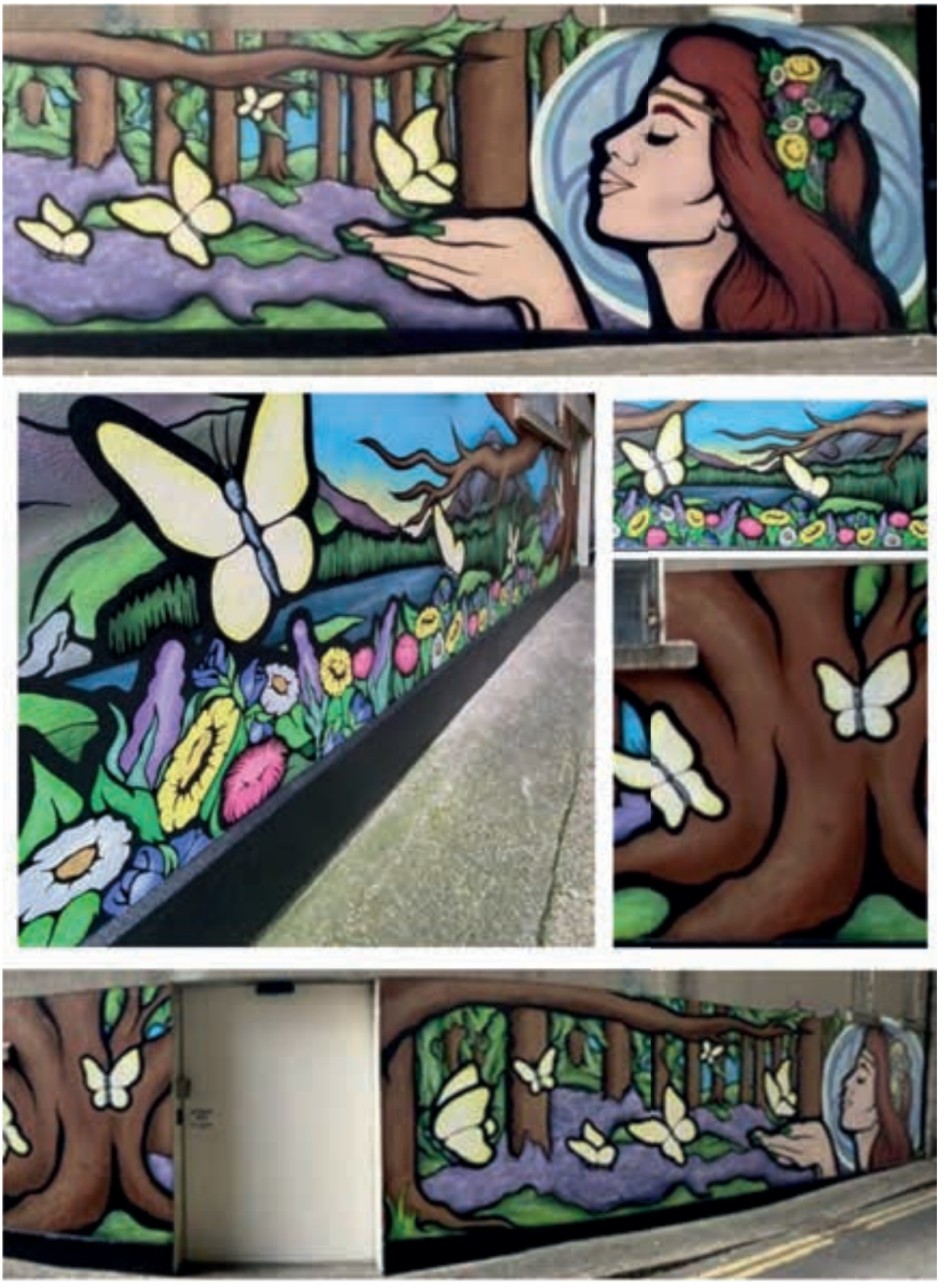
Neonatal ACORN Team
Jo Egan, Zelda Greene, Roisin Gowan, Roberta McCarthy, Montse Corderroura, Ciara Buggy, Marie Slevin

The ACORN Programme: Establishing a neonatal developmental inpatient ward round at the National Maternity Hospital. Oral presentation at Irish Neonatal Research Symposium, Dublin, 31 March 2023; poster presentation at NMH Research and Innovation Symposium Event, 24 February 2024.

Jo Egan, Eithne Lennon, Zelda Greene, Rosin Gowan, Marie Slevin, Roberta McCarthyReview of year one of ACORN Clinic: Post discharge developmental surveillance of very low birth weight, low gestational age infants. Oral presentation at Irish Neonatal Research Symposium, Dublin, 31 March 2023; poster presentation at NMH Research and Innovation Symposium Event, 24 February 2024.

Table 1 Attendance at ACORN OPD clinics (3, 6, 9, 12 months Corrected Gestational Age) for 56 infants

	ACORN 3	ACORN 6	ACORN 9	ACORN 12	Total
Attended	42	37	29	14	122
Did not attend	1	5	8	3	17
Declined	0	0	0	0	0
Lost to follow up	0	1	1	1	3



The National Maternity Hospital finished work on a themed mural outside the Chapel of Rest in October 2023. The NMH, together with Dublin City Council, commissioned the mural by artist Shauna Heron of Blu Heron Design to enhance the area outside the Chapel. The Chapel of Rest is a non-denominational space where parents can choose to have a naming or blessing ceremony before transitioning from the hospital to their chosen place of rest. The NMH hope that this mural will enhance the area and act as a tribute to the lives of all of the babies who have died too soon.

Neonatal & Infant Mortality

Congenital Anomalies - Livebirths (15)

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	External Referral	Placental Histology	Cause of death	PM
1	23+3	720	Female	C-Section	1, 1	1	NMH	No	Placenta accreta/scar implantation.	Extreme prematurity, complex congenital heart anomaly, placenta accreta.	No
2	25+2	860	Male	"Induction Of Labour, Vaginal Delivery"	1, 1	1	NMH	Yes	Amnion nodosum.	Major renal anomaly, anhydramnios.	No
3	25+3	760	Female	"Induction Of Labour, Vaginal Delivery"	1, 1, 1	1	NMH	No	No abnormal histology.	Pulmonary hypoplasia, anhydramnios, major renal anomaly.	Yes
4	25+4	540	Female	"Induction Of Labour, Vaginal Delivery"	1, 1	1	NMH	No	Loose knot. Gross only.	Chromosomal anomaly.	No
5	25+5	460	Female	"Induction Of Labour, Vaginal Delivery"	2, 1, 0	1	NMH	Yes	High grade FVM.	Chromosomal anomaly.	No
6	29+2	1295	Female	C-Section	4, 1, 0	1	NMH	Yes	DCH. Velamentous cord.	Respiratory failure, pulmonary hypoplasia, PPROM (from 18 weeks), prematurity, multiple congenital anomalies.	No
7	29+3	2445	Male	C-Section	0, 1, 1	1	NMH	No	Abnormal villous maturation.	Fetal hydrops, genetic condition identified, placental abruption, multiple congenital anomalies.	No
8	31+1	2000	Male	C-Section	3, 5, 6	2	NMH	Yes	Hypercoiled cord, SUA. High grade FVM.	Fetal hydrops.	No
9	31+6	2030	Male	C-Section	NR	2	Paediatric Hospital	Yes	DCDA. Retroplacental haemorrhage.	Multiple congenital anomalies; renal anomalies, trachea oesophageal fistula, respiratory failure.	No
10	32+6	930	Male	Vaginal Delivery	1, 1, 1	1	NMH	No	Placental hypoplasia with abnormal villous maturation. Hypercoiled cord.	Chromosomal abnormality, prematurity.	No
11	35+0	1345	Female	Vaginal Delivery	1, 0	1	NMH	No	None.	Chromosomal abnormality.	No
12	35+2	2310	Female	Vaginal Delivery	1, 2, 2	1	NMH	Yes	Low grade MVM and low grade FVM. Amnion nodosum.	Pulmonary hypoplasia, bilateral renal anomaly.	Yes
13	35+3	1550	Female	Vaginal Delivery	1, 1	1	NMH	No	None.	Anencephaly.	No
14	37+1	4500	Male	C-Section	1, 1, 1	1	NMH	No	Hypercoiled cord.	Intracranial anomaly.	Yes
15	39+5	2535	Male	Vaginal Delivery	2, 1, 1	1	NMH	No	Hihg grade MVM and high grade FVM. Amnion nodosum.	Multiple congenital anomalies including renal and gastrointestinal.	Yes

NMH ANNUAL REPORT | 2023

Congenital Anomalies – Stillbirths (9)

Case No.	EGA	BW (gms)	Gender	Delivery Method	External Referral	Placental Histology	Cause of Death (EEM)	PM
1	24+0	555	Female	Spontaneous vaginal	No	Normal (Gross only).	Thanatophoric dysplasia.	No
2	24+5	825	Female	Spontaneous breech with MSV	Yes	No abnormal histology.	Thanatophoric dysplasia.	No
3	25+3	530	Female	Spontaneous vaginal	No	Placental hypoplasia (Gross only).	Trisomy 18.	No
4	25+3	805	Male	Spontaneous vaginal	No	Small placenta (gross only).	Anomalies.	No
5	29+0	700	Female	Spontaneous vaginal	No	MCDA. High grade FVM. Velamentous hypocoiled cord.	Trisomy 21.	No
6	29+1	910	Female	Spontaneous vaginal	Yes	Placental hypoplasia (Gross only)	Trisomy 18.	No
7	34+3	965	Female	C-Section	No	DCDA. High grade FVM.	Multiple anomalies.	No
8	38+2	3165	Male	Spontaneous vaginal	Yes	High grade FVM.	Multiple anomalies.	No
9	41+4	2070	Female	Spontaneous breech with MSV	No	Placental hypoplasia (Gross only).	Trisomy 18.	No

Antepartum Stillbirths (10)

Case No.	EGA	BW (gms)	Gender	Delivery Method	External Referral	IUGR	Placental Histology	Cause of Death (EEM)	PM
1	23+5	550	Male	Spontaneous breech with MSV	No	No	Retroplacental haemorrhage. Low grade FVM.	Abruption.	No
2	23+5	563	Female	Spontaneous breech with MSV	No	No	Gross only	Feto-Maternal haemorrhage	No
3	25+5	590	Male	Spontaneous vaginal	No	Yes	High grade MVM.	Placental disease.	Yes
4	27+1	800g (estimated)	Female	C-Section	Yes	No	MCDA. Low grade MVM.	Twin to twin transfusion syndrome, mono chorionic diamniotic twins; extreme prematurity and extremely low birth weight.	No
5	33+6	1335	Female	Spontaneous vaginal	No	Yes	Velamentous cord with stricture and high grade FVM	Placental disease.	No
6	35+3	2025	Male	Spontaneous vaginal	No	No	Hypercoiled cord with strictures. High grade FVM.	Placental disease.	No
7	38+1	250	Female	Spontaneous vaginal	No	n/a	MCDA.	TTTS.	No
8	40+0	3710	Female	Spontaneous vaginal	No	No	High grade FVM. Low grade MVM. Hypercoiled cord.	Placental disease.	No
9	40+1	2840	Female	Spontaneous vaginal	No	No	Small placenta with high grade FVM .	Placental disease.	Yes
10	41+6	3965	Male	Spontaneous vaginal	No	No	Retroplacental haemorrhage. High grade FVM.	Placental abruption.	No

Early Neonatal Deaths (8)

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
1	25+0	805	Female	Vaginal Delivery	9, 9	4	NMH NICU	Yes	No	Moderate acute chorioamnionitis FIR.	Gram negative sepsis, extreme prematurity and extremely low birth weight.	No
2	25+1	615	Male	C-Section	6, 8	5	NMH NICU	No	No	High grade MVM.	Pulmonary haemorrhage, extreme prematurity, extremely low birth weight, intraventricular haemorrhage, grade 4.	No
3	25+4	580	Female	C-Section	6, 8	5	NMH NICU	Yes	Yes	High grade MVM and low grade FVM.	Extensive intraventricular haemorrhage, extreme prematurity and ELBW.	No
4	26+4	680	Female	C-Section	4, 7	6	NMH NICU	Yes	No	MCDA. Low grade MVM.	Hypertrophic cardiomyopathy, twin to twin transfusion syndrome, mono chorionic diamniotic twins; extreme prematurity, respiratory distress syndrome.	No
5	26+4	940	Female	C-Section	4, 6, 7	2	NMH NICU	Yes	No	MCDA. Low grade MVM.	Necrotizing enterocolitis, extreme prematurity, extremely low birth weight; twin to twin transfusion syndrome, mono chorionic diamniotic twins.	No
6	26+5	750	Male	C-Section	2, 5, 6	2	NMH NICU	No	No	High grade MVM and FVM.	Complications of extreme prematurity, extremely low birth weight and IUGR; refractory hypotension, anuric renal failure, pancytopenia.	No
7	27+5	1150	Male	C-Section	3, 4, 8	7	NMH NICU	Yes	No	MCDA. Low grade MVM.	Gram negative sepsis, necrotizing enterocolitis, pulmonary haemorrhage, extreme prematurity and extremely low birth weight; twin to twin transfusion syndrome, mono chorionic diamniotic twins.	No
8	27+6	834	Female	C-Section	1, 1, 1	1	NMH DR	Yes	Yes	Severe acute chorioamnionitis with FIR. High grade FVM.	Placental disease, fetal vascular malperfusion.	Coroner's PM

Late Neonatal Deaths and Early Infant Deaths Including Congenital Anomalies (15)

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
1	23+6	610	Male	Vaginal Delivery	5, 5, 7	43	NMH NICU	No	No	Chorioamnionitis. MIR and FIR.	Complications of extreme prematurity, extremely low birth weight; coagulase negative staphylococcus infection, intestinal failure secondary to complicated necrotising enterocolitis with stoma, multi-organ failure.	No
2	24+1	610	Male	C-Section	5, 7	20	NMH NICU	No	No	MIR and FIR.	Necrotising enterocolitis, extreme prematurity and extremely low birth weight.	No
3	25+1	708	Female	Vaginal Delivery	2, 2, 3	38	NMH NICU	Yes	No	Severe chorioamnionitis with FIR. Hypocoiled cord. Severe FVM.	Persistent pulmonary hypertension and pulmonary hypoplasia, diaphragmatic dysfunction; prolonged preterm rupture of membranes at 17 weeks and anhydramnios.	No
4	25+1	720	Male	Vaginal Delivery	5, 6, 8	16	NMH NICU	No	No	Severe chorioamnionitis.	Complications of extreme prematurity and ELBW, bilateral extensive IVH, GBS sepsis.	No
5	25+6	850	Male	Vaginal Delivery	6, 9	12	NMH NICU	No	No	DCDA. Low grade MVM. MIR stage 1, grade 1.	Necrotising enterocolitis, extreme prematurity and extremely low birth weight.	No

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
6	26+0	590	Male	C-Section	4, 5, 6	53	NMH NICU	Yes	No	MCDA with fused cord insertion.	Complications of extreme prematurity, extremely low birth weight, MCDA twin; severe respiratory failure, intestinal failure secondary to complicated necrotising enterocolitis with stoma & severe liver dysfunction.	No
7	27+1	850	Female	C-Section	1, 7, 7	12	NMH NICU	Yes	No	No abnormal histology.	Twin to twin transfusion syndrome, mono chorionic diamniotic twins, severe (grade 4) IVH, extreme prematurity and extremely low birth weight.	No
8	27+3	835	Male	C-Section	6, 9	16	NMH NICU	Yes	No	MCMA. Hypocoiled cord. Clinical cord entanglement.	Gram negative sepsis, severe intraventricular haemorrhage; extreme prematurity and extremely low birth weight, mono chorionic mono amniotic twins.	No
9	30+3	970	Male	C-Section	1, 3, 8	21	NMH NICU	Yes	Yes	High grade MVM. Low grade FVM.	Gram negative sepsis, multi-organ failure; prematurity, extremely low birth weight, intra uterine growth restriction.	No
10	31+1	1790	Male	Vaginal Delivery	7, 9	3 mths	Home	No	No	Severe chorioamniotis with FIR. Low grade FVM.	Sudden infant death at home.	Coroner's PM
11	33+5	2530	Male	C-Section	9, 9	8	NMH NICU	No	No	Low grade MVM.	Gram negative sepsis and meningitis.	No
12	34+4	3015	Male	C-Section	7, 7	12	NMH	No	No	Severe chorioamniotis. Moderate FIR.	Complex cardiac anomaly.	No
13	36+0	2655	Male	C-Section	8, 9	24	Paediatric hospital	Unbooked	No	Low grade MVM.	Paediatric hospital	No
14	37+2	3720	Male	C-Section	7, 8	23	Paediatric hospital	No	No	Low grade MVM. High grade villitis.	Multi-organ failure post cardiac arrest, background of refractory supra ventricular tachycardia (SVT) and severe cardiac dysfunction.	No
15	38+5	3400	Female	Vaginal Delivery	6, 8	10	Paediatric hospital	Yes	No	Abnormal villous maturation.	Paediatric hospital	No

Liveborn infants < 500g and < 24 weeks gestation (9)

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
1	15+2	128	Male	Vaginal Delivery	1, 0	1	NMH DR	No	No	Moderate chorioamnionitis.	Extreme prematurity, preterm labour at a pre-viable gestation due to acute chorioamnionitis	No
2	17+2	138	Female	Vaginal Delivery	2, 1, 1	1	NMH DR	No	No	Severe chorioamnionitis with FIR.	Extreme prematurity, preterm labour at a pre-viable gestation due to acute severe chorioamnionitis	No
3	18+5	226	Male	Vaginal Delivery	1, 0	1	NMH DR	No	No	Severe chorioamnionitis with FIR.	Extreme prematurity, preterm labour at a pre-viable gestation due to acute chorioamnionitis, PPROM at 17 weeks	No
4	21+0	385	Male	Vaginal Delivery	1, 1	1	NMH DR	No	No	Severe chorioamnionitis.	Extreme prematurity, preterm labour at a pre-viable gestation due to acute chorioamnionitis	YES
5	21+3	385	Male	Vaginal Delivery	1, 1	1	NMH DR	No	No	Severe chorioamnionitis with FIR.	Extreme prematurity, preterm labour at a pre-viable gestation due to acute chorioamnionitis	No
6	22+0	485	Male	Vaginal Delivery	4, 1	1	NMH DR	No	No	No abnormal histology.	Extreme prematurity, preterm labour at a pre-viable gestation	No
7	22+4	420	Female	Vaginal Delivery	2, 1, 0	1	NMH DR	No	No	No abnormal histology.	Delivery at Pre-viable gestation	No
8	22+5	475	Female	Vaginal Delivery	5, 6, 7	3	NMH NICU	No	No	No abnormal histology.	Extreme prematurity, pseudomonas sepsis	No
9	23+5	470	Female	Vaginal Delivery	4, 5, 6	31	NMH NICU	No	No	Severe chorioamnionitis. High grade MVM.	Extreme prematurity and ELBW, NEC complicated by bowel perforation, preterm lung disease	No

Outborn Deaths (3)

Case no.	EGA	BW (gms)	Gender	Delivery Method	Apgars (1, 5, 10 mins)	Age at death (days)	Place of death	Placental Histology	Cause of death	PM
1	27+3	1100	Male	Vaginal Delivery	0, 0, 2	4	NICU NMH	Not available.	GBS sepsis and meningitis, multi organ failure, extreme prematurity.	No
2	32+0	1700	Female	C-Section	3, 4, 6	11	NICU NMH	Not available.	E.Coli sepsis, congenital neurological condition (genetic confirmation), prematurity.	No
3	41+2	3800	Male	"Vaginal Delivery, Born at home"	ND	7	NICU NMH	Severe chorioamnionitis with FIR. Low grade FVM.	Neonatal encephalopathy.	Coroner's PM

Neonatal Encephalopathy

Since 2013, NMH now reports on all infants ≥35 weeks gestation who during the first week of life have:

- Either seizures alone

or

- Signs of Neonatal Encephalopathy which is defined as clinical findings in 3 or more of the following domains:
- Level of consciousness
- Spontaneous activity when awake or aroused
- Posture
- Tone
- Primitive reflexes
- Automonic system

For a more detailed description of the findings in each domain, please refer to the appendix. To be included in our annual figures, the signs of neonatal encephalopathy (whether mild, moderate or severe) must be present for at least 24 hrs.

Cases reported are reviewed and some are subsequently reclassified as Hypoxic-Ischaemic Encephalopathy if there is clinical evidence of encephalopathy (as defined above) associated with one or more of the following physiological criteria:

- Apgar score ≤5 at 10 mins of age
- Continued need for resuscitation (endotracheal intubation or PPV) at 10 mins after birth.
- Acidosis within 60 mins of birth (defined as a pH < 7.0 in an umbilical cord or any neonatal arterial, venous or capillary blood sample)
- Base deficit ≥ 16 mmol/L in an umbilical cord or any neonatal blood sample (arterial, venous or capillary) within 60 mins of birth

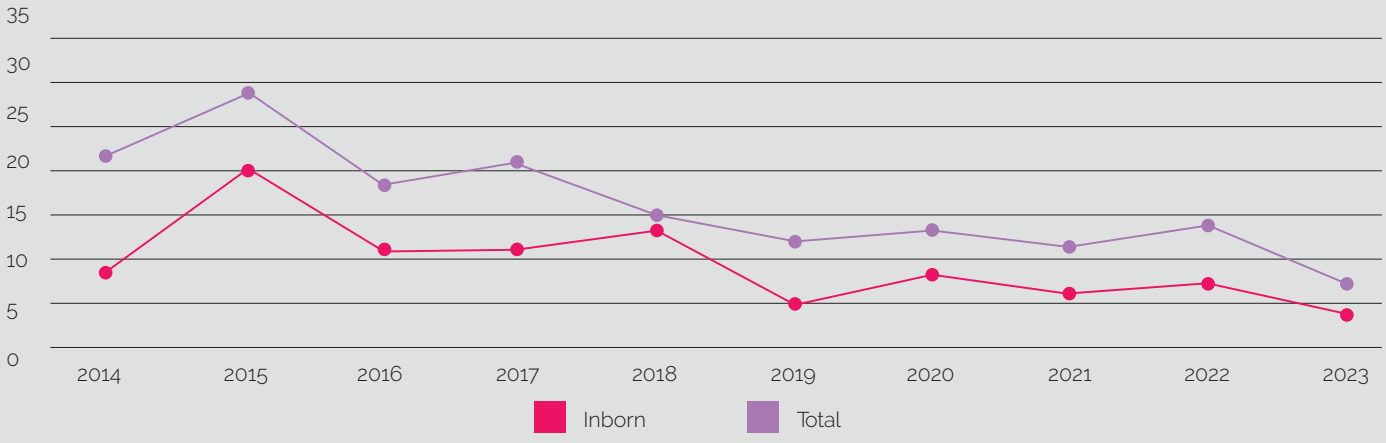
Reference is also made to which cases undergo therapeutic hypothermia. Please note that the physiological criteria which are now used to reclassify a case as HIE are broader than the criteria applied in previous years. If pertinent obstetric details surrounding the delivery are not available (as in the case of outborn infants) to allow a case to be catergorised as HIE according to the above definition, then, the case, by default, is reported as a case of Neonatal Encephalopathy. In all reported cases, it is assumed that there is no evidence of an infectious cause, a congenital malformation of the brain or an inborn error of metabolism that could explain the encephalopathy.

All cases (both neonatal encephalopathy cases and hypoxic-ischaemic encephalopathy cases) are further categorised according to severity of presentation. The most severe stage observed during the first 7 days following birth is recorded based on the infant's level of consciousness and response to arousal manoeuvres such as persistent gentle shaking, shining a light or ringing of a bell. Infants are considered to fall into the 'mild' category if they are alert or hyperalert with either a normal or exaggerated response to arousal, infants fall into the 'moderate' category if they are arousable but are lethargic and have a diminished response to arousal manoeuvres and infants fall into the 'severe' category if they are stuporous or comatosed and are difficult to arouse or are not arousable. If further clarification regarding any of these clinical terms or definitions is required, please refer to the appendix.

Since 2017, infants who have seizures but who are not clinically encephalopathic are no longer included in the neonatal encephalopathy figures as before; they will now be listed separately.

Dr Eoin Ó'Curraín,
Consultant Neonatologist.

Infants Undergoing Therapeutic Hypothermia in the NMH 2014 - 2023



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Inborn	9	20	11	11	13	5	8	6	7	4
Total	**21**	**29**	**17**	**21**	**15**	**12**	**13**	**11**	**14**	**7**

No. of Cases 2023

	Inborns	Outborns
Neonatal Encephalopathy - with HIE	2	3
Mild HIE (Grade 1) Moderate HIE (Grade 2) Severe HIE (Grade 3)	0 2 0	0 2 1
Neonatal Encephalopathy	2	0
Seizures – No Encephalopathy	1	1
Therapeutic Hypothermia	4	3

Infants Undergoing Therapeutic Hypothermia in the NMH

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Inborn										
HIE cases reported	9	19	9	9	9	5	8	6	4	2
Number cooled	9	18	9	9	9	5	8	6	4	2
NE cases reported	4	2	5	2	4	0	0	0	3	2
Number cooled	0	2	2	2	4	0	0	0	3	2
Total	**13 (9 cooled)**	**21 (20 cooled)**	**14 (11 cooled)**	**11 (11 cooled**	**13 (13 cooled)**	**5 (5 cooled)**	**8 (8 cooled)**	**6 (6 cooled)**	**7 (7 cooled)**	**4 (4 cooled)**
Outborn										
HIE cases reported	13	8	6	10	2	6	4	2	4	3
Number cooled	12	8	5	9	2	6	4	2	4	3
NE cases reported	1	1	1	1	0	2	2	3	3	0
Number cooled	0	1	1	1	0	1	1	3	3	0
Total	**14 (12 cooled)**	**9 (9 cooled)**	**7 (6 cooled)**	**11 (10cooled)**	**2 (2 cooled)**	**8 (7 cooled)**	**6 (5 cooled)**	**5 (5 cooled)**	**7 (7 cooled)**	**3 (3 cooled)**
Total Inborn and Outborn Cases	27	30	21	22	15	13	14	11	14	7
Total receiving Therapeutic Hypothermia										
Inborn infants cooled	9	20	11	11	13	5	8	6	7	4
Outborn infants cooled	12	9	6~	10	2	7	5	5	7	3
Total	**21***	**29^**	**17~**	**21~**	**15**	**12∞**	**13**	**11**	**14**	**7**

** 2 other inborn infants were cooled in 2014 but are excluded from the above table as both of these infants were diagnosed with early onset neonatal sepsis.*

^one outborn infant was cooled in 2015 but is excluded from the above table as the infant was diagnosed with a congenitally acquired condition postnatally.

~ one infant is not included in the hypothermia figures as although the infant was initially commended on cooling, it was discontinued as it was not tolerated.

∞one inborn infant was cooled in 2019 but is excluded from the above table as the infant was diagnosed with early onset neonatal sepsis.

Please note as of 2017, infants who have seizures but who are not clinically encephalopathic are excluded from the above table.

Hypoxic Ischaemic Encephalopathy: Inborn (2)

Case No.	EGA	BW (g)	Delivery Method	Delivery Method Indication	Apgars 1, 5, 10, 15, 20	PPV at 10 mins	Min pH within 60 min	Max BE within 60 min	Seizures Y/N	TH	Grade of NE	Summary of MRI brain	Organ Involvement	Outcome	Placental Histology	Classification
1	38+4	3585	Emergency C-Section (in labour)	Placental abruption, fetal bradycardia	1,1,1	Yes	6.94	-17	No	Yes	2	Normal	Ventilated, hypotension, coagulopathy, acute kidney injury	Discharged home D8	Velamentous cord insertion, low grade FVM, low grade villitis, acute subchorionitis	1, 2, 3, 4 HIE inborn
2	39+5	4200	SVD	Fetal bradycardia, meconium stained liquor	1,2, 3	Yes	<6.8	incalc	Yes	Yes	2	Normal	Ventilated, meconium aspiration syndrome, acute kidney injury, acute liver injury	Discharged home DOL 20	Meconium associated vascular necrosis, low grade FVM	1,2,3,4 HIE inborn

Neonatal Encephalopathy: Inborn (2)

Case No.	EGA	BW (g)	Delivery Method	Delivery Method Indication	Apgars 1, 5, 10, 15, 20	PPV at 10 mins	Min pH within 60 min	Max BE within 60 min	Seizures Y/N	TH	Grade of NE	Summary of MRI brain	Organ Involvement	Outcome	Placental Histology	Classification
1	40+1	3440	Operative vaginal (Forceps)	IOL for PET/hypertension	9,9	No	7.12	-9.3	Yes	Yes	2	Abnormal: unilateral, right sided, focal, fronto-parietal areas of ischaemia	SIADH, hypoglycaemia	Discharged home DOL 17	Extremely small placenta <5th centile, mild acute chorionitis and low grade fetal vascular malperfusion	NE inborn with seizures - likely secondary to neonatal stroke
2	42+1	4270	Operative vaginal (Ventouse)	NRCTG, Meconium stained liquor	8,9	No	7.4	-7	Yes	Yes	2	Abnormal: small focal areas of ischaemia ganglio-capsular region and PLIC bilaterally	Ventilated, hypotension	Discharged home	High grade FVM with acute chorioamnionitis	NE inborn, postnatal collapse at 30 minutes of life

Hypoxic Ischaemic Encephalopathy: Outborn (3)

Case No.	EGA	BW (g)	Delivery Method	Delivery Method Indication	Apgars 1, 5, 10, 15, 20	PPV at 10 mins	Min pH within 60 min	Max BE within 60 min	Seizures Y/N	TH	Grade of NE	Summary of MRI brain	Organ Involvement	Outcome	Placental Histology	Classification
1	36+5	2650	Emergency C-Section (not in labour)	Uterine rupture	3,6,8	No	<6.8	-19	Yes	Yes	2	Normal	Ventilated, hypotension	Discharged home D9	Low grade FVM	3, 4 HIE
2	39+5	4020	Emergency C-Section (in labour)	Placental abruption, NRCTG	2,2,6	Yes	<7.0	incalc	Yes	Yes	2	Normal	Ventilated, hypotension, acute kidney injury	Discharged home DOL 13	No placenta in NMH	3,4 HIE
3	41+2	3800	SVD	Born at home, planned	Unknown	No	6.9	-25	Yes	Yes	3	Hypoxic brain injury with ischaemia of the thalami bilaterally, optic rdiations bilaterally. And small areas of parenchymal ischaemia bilaterally	Ventilated, SIADH, acute kidney injury, coagulopathy	Died DOL 6, coroner's case	Acute chorioamnionitis with low grade FVM	3,4 HIE outborn

Neonatal Encephalopathy: Outborn (0)

No cases to report

Seizures – No Encephalopathy: Inborn (1)

Case No.	EGA	BW (g)	Delivery Method	Delivery Method Indication	Apgars 1, 5, 10, 15, 20	PPV at 10 mins	Min pH within 60 min	Max BE within 60 min	Seizures Y/N	TH	Grade of NE	Summary of MRI brain	Organ Involvement	Outcome	Placental Histology	Classification
1	37+3	1875	LSCS	Small for gestational age	9, 9	No	N/A	N/A	Yes	No	0	Normal	Coagulopathy, abnormal LFTS	Discharged at 6 weeks of life to Children's hospital	Extremely small placenta <3rd centile, high grade maternal and fetal vascular malperfusion	Seizure secondary to hyperbilirubinaemia on day 6, underlying G6PD deficieny and likely complex metabolic/ genetic condition, undergoing ongoing investigation

Seizures – No Encephalopathy: Outborn (1)

Case No.	EGA	BW (g)	Delivery Method	Delivery Method Indication	Apgars 1, 5, 10, 15, 20	PPV at 10 mins	Min pH within 60 min	Max BE within 60 min	Seizures Y/N	TH	Grade of NE	Summary of MRI brain	Organ Involvement	Outcome	Placental Histology	Classification
1	38+5	2640	SVD	IOL for small for dates, fetal bradycardia 15 mins before delivery	3, 7, 8	No	6.7	-20	Yes	No	0	Normal	None	Discharged home D7	No placenta in NMH	Seizure- no NE

Classification:

1) Apgar score ≤5 at 10 mins of age
2) Continued need for resus at 10 mins after birth
3) pH <7.0 within 60 mins of birth
4) Base excess ≥ 16.0 within 60 mins of birth

Antenatal Education

Eleanor Durkin and Theresa Barry, in collaboration with the multidisciplinary team, continue to develop and create resources and supports which promote improvement in the health and wellbeing of babies, pregnant women, and their partners throughout the antenatal and postnatal periods. The team was proud to have been shortlisted for Patient Education Project of the Year at The Irish Healthcare Awards 2023. This project revised the suite of antenatal education classes using a Universal Design for Learning (UDL) approach to parenthood education. A comprehensive, inclusive, interactive programme of inperson and virtual antenatal education classes using this approach is now used to teach, reassure and empower women and partners. It is a key part of our antenatal education vision for all: to improve parent's knowledge and understanding of preparation for childbirth and parenthood.

Whilst we continue to provide a broad range of midwifery led and multidisciplinary online classes, we were delighted to resume in-person classes in spring 2023. Despite the many advantages of the online forum, the uptake of in-person classes have surpassed expectations to the extent that we find it hard to meet demand and still keep within the 12 couples per class which is recommended by the Antenatal Education Standards. All multiparous are now given the option of in-person or online classes as there is a preference for this.

We currently offer one of the most comprehensive package of classes and classes include:

- A set of four "Wellbeing in Pregnancy" classes facilitated by the multidisciplinary team. This is open to women at any stage of their pregnancy but ideally the earlier the better.
- A set of three classes for first time parents (online or in-person).
- A refresher class for women/partners who have had previous vaginal births (online or in-person)• A VBAC (Vaginal Birth After Caesarean) class for women who wish to have a vaginal birth this time (online or in-person)
- A "Preparation for Elective Caesarean Birth" class for women with a booked elective caesarean section (online).
- A Twins class, for women/partners expecting twins (online).
- "Young Mums and Dads" classes which include hands on baby care (in-person).
- "Partners Only" class once a month online.
- "An Introduction to Hypnobirthing" class (online).
- "Mental Wellbeing in Pregnancy and Beyond" and "Postnatal mental wellbeing" classes-facilitated by mental health midwives
- "Healthy Bodies After Birth" classes-facilitated by physiotherapists.
- Individual classes for vulnerable women/couples

In 2023, 63% of all nulliparous women and 14% of multiparous women attended a class. 44% of all expectant mothers attended the 'Wellbeing in Pregnancy' classes.

Antenatal education and the delivery of information has dramatically changed over the past few years, and The National Maternity Hospital (NMH) eLearning Hub is integral to our classes. Whilst innovations enhance our service, they require development and monitoring, all of which takes time and expertise.

National antenatal education standards now guide our service and the development of resources. In 2023 we took part in a national antenatal education audit where The NMH was consistently found to be demonstrating a "commitment towards developing a quality service".

In 2023, Theresa and Eleanor completed part one of the national antenatal educator's programme and part two will be completed in 2024. As part of this programme a new national antenatal education curriculum will be unveiled and it will be an opportunity to review all class material and structure.

We continue to receive referrals from colleagues in Medical Social Work, Perinatal Mental Health, Fetal Medicine Department, Bereavement and clinics to provide specialist and individual classes for vulnerable women. In 2023, we provided 91 individual classes and of those, 32 were either social inclusion referrals or were for women who required an interpreter.

In an effort to meet the needs of women from the Travelling Community, we collaborated with the Inclusion Health Director of Community Healthcare East and took part in an initiative whereby a midwife and social inclusion social worker met groups of women from the Wicklow Travelling Community. Following an evaluation, this very successful pilot will be extended to other areas throughout Wicklow in 2024. Many quality initiatives have been developed and completed between our Department and the Inclusion Health Team to ensure a more inclusive practice exists.

Our service could not run without the administration support of Susan Doyle and Nicola Jordan. In addition to setting up the classes they answer a significant amount of emails and phone calls each week. The administration side of our service could be streamlined by an online booking system, the lack of which is consistently highlighted by women in their feedback.

Services are developed beyond antenatal education including teaching BLS (Basic Life Support) within the hospital and with the Dublin City Infant Mental Health Network. We are also involved in developing breastfeeding services within Hospital.

Eleanor Durkin & Theresa Barry, CMM2, Antenatal Education.

Bereavement

Angelina Straszok, Admin, Katarzyna Sobczyk, CMS Bereavement, Sarah Cullen, CMS Bereavement, Prof Cathy Allen, Consultant Obstetrician & Gynaecologist.

The vast majority of babies at the NMH are born healthy and well, but we are acutely aware of the great tragedy associated with the death of a baby, whatever the circumstance. Over the past number of years, we have been working to develop a comprehensive holistic service for bereaved families attending The National Maternity Hospital (NMH).

The Bereavement Midwives at the NMH care for women who experience first trimester loss, second trimester miscarriage, stillbirth, neonatal death and support couples who have Termination of Pregnancy in the case of life limiting conditions or termination in maternal interest. Central to the running of the service are the Clinical Midwife Specialists (CMS) in Bereavement, Brenda Casey, Sarah Cullen, Katarzyna Sobczyk (CMM1) and Yvonne Fallon (CMM1) who co-ordinate bereavement care pathways for women, their partners and families. Arrangements are made for follow-up in specialist clinics which are run by the bereavement midwives, senior medical personnel and specialist consultants.

There are four bereavement clinics led by Consultant Obstetrician & Gynaecologists: Dr Stephen Carroll met with 21 couples in the Stillbirth Clinic in 2023 and Dr Siobhan Corcoran met with 28 couples whose pregnancy loss was related to preterm labour and Prolonged Spontaneous Rupture of Membranes in which a comprehensive individualised care pathway was outlined for a subsequent pregnancy. Follow up was also arranged with 11 individual consultants for further couples with a significant amount of time invested in organising time frames for those that require joint obstetric and neonatal appointments. 10 couples attended the late miscarriage clinic with Prof Cathy Allen. The recurrent miscarriage clinic remains busy with a high demand for appointments. 102 couples were investigated in the Recurrent Miscarriage clinic led by Prof Cathy Allen, Consultant Obstetrician & Gynaecologist, with input from the multidisciplinary Reproductive Genetics multi-disciplinary team. Dr David Crosby, Consultant Obstetrician & Gynaecologist further supports this clinic and counselled 81 couples following early pregnancy loss in the reproductive genetics clinic. The TLC Clinic provides additional support to women in the 1st trimester, specifically for women who are pregnant again, having previously attended the recurrent miscarriage clinic. In 2023, 71 women attended the TLC clinic.

These clinics provide an opportunity to determine how parents are coping with grief and loss and risk access those who may need additional support. Medical information, obtained through investigations including haematological, microbiological, sonographic, radiological, genetic and histology is shared. The MRI service at the Hospital assists in this specialised area and images are reviewed by the Consultant Radiologist. Clinics are supported by Consultant Pathologists Drs Paul Downey and Eoghan Mooney, who provide valuable information through rapid histological placental examination and post-mortem examination. Dr Sam Doyle, Consultant Clinical and Biochemical Geneticist provides expertise and counsels couples in cases where genetic assessment is required.

The Bereavement Suite, officially launched in early 2022, aims to provide a seamless journey from admission to discharge for bereaved couples, which facilitates the continuity of carer where possible in a calm space.

The Bereavement Midwives arrange all hospital burials of miscarriages in the Holy Angels plot in Glasnevin Cemetery. Burials were organized for 43 babies following early or mid-trimester miscarriage. We believe time invested in preparing babies for burial with respect and dignity is one of the most important aspects of our work.

The Annual Remembrance Service was held in October, coinciding with Pregnancy Loss Awareness week. It is an important day in the hospital calendar where bereaved parents, their families and hospital staff come together to remember all babies that have died during pregnancy and around the time of birth.

Support, information and advocacy is offered to women who have experienced the death of a baby at any stage of pregnancy. The Miscarriage Support Group is held monthly with positive feedback from attendees. Pregnancy After Loss Support Group commenced in 2023 in collaboration with the Mental Health Team.

We continue educational input with staff and student midwives within the hospital and UCD. The Hospice Friendly Hospitals standard of care initiatives are in place.

Multidisciplinary bereavement education continued in 2023. The Irish Hospice Foundation education programme 'Dealing with Loss in Maternity Settings', aims to support hospital staff involved directly or indirectly in bereavement care. A generous donation from a bereaved family provided funding for ongoing education which was facilitated online by "Bereavement Care International"; 4 study days were completed over 2022/2023 with 54 attending. We continue to work with colleagues in UCD on research in relation to bereavement care and education.

The Bereavement Team.

Breastfeeding Support Services

The National Maternity Hospital Breastfeeding Support Services support all mothers who choose to breastfeed their babies or provide breast milk to their babies if they are unable to feed them directly themselves. 71% of mothers initiated breastfeeding at birth and 47% were exclusively breastfeeding on discharge. The decrease in 'exclusively feeding by discharge', is monitored and investigated by the postnatal staff, the lactation team and the neonatology director Dr Deirdre Sweetman.

There are weekly antenatal education sessions on colostrum harvesting which inform and advise mothers of this practice from 37 weeks' gestation. This quality initiative, which has being running since 2016, has proven to become very popular particularly in the last year where 505 antenatal women attended. The breastfeeding team have moved this education session from the antenatal clinic to the hospital boardroom to enhance the learning environment. Each mother that attends is given a free colostrum harvesting pack which contains an information leaflet, some syringes/caps and sticky labels for the mothers to label the date and time of collection. Women are also invited to attend an in-person breastfeeding education session or a virtual class monthly.

In 2023, there was a reduction in staffing working for various reasons including staff recruitment issues, however, the team have now their full complement of staff. Despite the staffing shortage, the team saw 1,249 women in the increasingly popular breastfeeding walk in clinic. This is an increase of 34% compared with 2022. The team have also noted the continual increase in women attending this service and an inclusion/exclusion criterion is being developed to ensure demand can be met.

The team also had 2,568 mothers and babies referrals from the inpatient wards and the baby clinic. The main reasons for referral was position and attachment and/or nipple pain. These numbers do not include phone calls or emails to the services directly.

The team also have been involved a proposed project for early breastfeeding in theatre. A multidisciplinary approach has been adopted with involvement from the breastfeeding team, anaesthesia, obstetrics, midwifery, nursing and theatre staff. Key factors to assist women feeding in theatre were identified such as tying the hospital gown differently to avoid delays with skin-to-skin, assisting women with hand expressing to initiate the first latch, and by providing hands on support with breastfeeding during caesarean section. This commenced in September 2023 with data prospectively collected on 54 women who expressed a desire to breastfeed in theatre. The feedback we gathered has been overwhelmingly positive from women and their partners. The selfreported lower levels of patient anxiety, higher patient satisfaction, and higher staff morale are notable. The findings also showed 52/54 (96%) experienced skin to skin for >10 minutes, 47/54 (85%) breastfed in theatre, and 29/54 (54%) breastfed for >10 minutes in theatre. To date, this project has demonstrated early initiation of breastfeeding does not affect the running of theatre lists, reduces the pressure on recovery staff to feed baby, and increases patient satisfaction

The National Breastfeeding Week 2023 was celebrated in October and the team arranged educational activities for staff and patients daily. Informative posters were placed in the nursery on all the postnatal wards. The team have also commenced educational sessions on the wards where short sessions are given to small members of staff.

Finally, congratulations to three team members Helen Batson, Ruby Jaison and Ramita Dangol for completing their Level 9 Professional Certificate in Breastfeeding and Lactation. We would also like to welcome Aoife Kenny to the team.

Breastfeeding Team.

Aislinn O'Toole breastfeeding her baby Clodagh while her partner Alex Hirst reads a book from the NICU library. The Baby Bookworms Bookclub is part of the developmental care package that is provided in the NICU whereby families are encouraged to read and chat to their babies when with them in the NICU.

Community Midwifery Service

Debbi Applebe, Community Midwife (centre), with Baby Sloane, daughter of Nessa Kelly (left) with her sister, Aifric Treacy (right) and her newborn baby son Robbie.

The Community Midwifery Service is celebrating its 25th year of service in The National Maternity Hospital. There are three main components to the care we provide:

1. DOMINO and Homebirth service
2. Antenatal Care in Community Clinics
3. Early Transfer Home

DOMINO/Homebirth Antenatal Care

The aims of the service are:

- To provide continuity of care to low-risk women throughout pregnancy, labour and the postnatal period
- To provide a 24-hour midwifery care for all women booked with the scheme
- To have a DOMINO midwife providing care in labour
- To provide early discharge home where the postnatal care can be done in the women's home

The antenatal clinics take place in Blackrock Centric Health, Churchtown Primary Care Centre, Leopardstown Primary Care Centre, Bray Primary Care Centre, Greystones Primary Care Centre and Newtownmountkennedy Primary Care Centre.

We encourage all women to have combined care with their GPs. A Consultant Obstetrician & Gynaecologist is available to support the team if required. Women over 40 weeks' gestation are offered a scan to assess liquor volume.

The DOMINO Midwives in conjunction with Valerie Spillane, CMM 3 Fetal Medicine Unit, rolled out a 'Basics in Ultrasound' course 2 years ago and this continues yearly with the aim for all our midwives to provide this service for women attending the community midwifery service. This is an excellent resource which is used weekly in

the hospital-based antenatal clinic. Feedback from this clinic is very positive.

A total of 244 women attended the Community Midwife Review Clinic with the majority of these women needing senior midwifery review to develop a care plan for them.

Birth Preparation and Breastfeeding Classes

The Community Midwifery Antenatal Classes are delivered online for Multiparous women, which is generally their preferred method, while in-person classes continue in both Wicklow and Dublin for Nulliparous women and their birth partners. All women are offered breastfeeding classes and these are also in-person in both Bray Health Centre and 65/66 Lower Mount Street, a building located adjacent to the main Hospital. Feedback indicates a preference for the in-person interaction of the class format, and the midwives find the couples much more engaged in the learning process with this teaching methodology.

Bookings

A total of 695 Women booked with the service in 2023 which is a 20% increase on 2022: 387 gave birth under the DOMINO service with a further 119 pregnancies ending in miscarriage. The remaining reasons for changing the care provider was similar to previous years where the woman's risk profile changed and assisted or specialised care became the appropriate pathway for them. This is in line with the Maternity Care Strategy.

Homebirths

We had 35 planned homebirths in 2023. Of note, out of the 21 that started labour at home, only two were transferred into The NMH in the intrapartum period: one maternal request for pain relief and the second for meconium stained liquor. There is a notable decrease in homebirth numbers nationally and some women choosing a private service provider offering homebirth. See Table 2 for reasons for transfer out of the Homebirth service during the antenatal period. Almost all the women remained under the care of the DOMINO midwives and continued to receive care from the team for the remainder of their pregnancy, birth and through the postnatal period.

Intrapartum Care

Of the 387 women who birthed with the DOMINO and Homebirth scheme, 29% required induction of labour. The indications for induction follow The National Maternity Hospital Policy. The main indications for induction are prolonged spontaneous rupture of membranes (PSROM), fetal interest, advanced maternal age, GBS and postdates. It is interesting to note the Robson Classification of Caesarean Section (Table 3) Group 1 LSCS rate is 7.7%, with our overall LSCS rate being 14.7% which is in-line with World Health Organisation (WHO) "ideal acceptable" LSCS rate of 10-15%. This is with the backdrop of Global trends showing year on year increase in LSCS. The table for the Community Midwives Robson Ten Groups Classification of Caesarean Section is at the end of this section. It is also notable that 72% of DOMINO women had a spontaneous vaginal delivery.

Mode of Birth and Epidural by Parity

Table 4 and 5 outline mode of birth and epidural rate, along with our pool use. Our epidural rate is 55% for nulliparous women and 18% for multiparous women. The nulliparous percentage is an increase on previous years. We promote the hydrotherapy pool as much as possible, with 18% of our women using the pool during labour. However, there are a number of women excluded from using it due to the need for continuous fetal monitoring as a result of high induction rates.

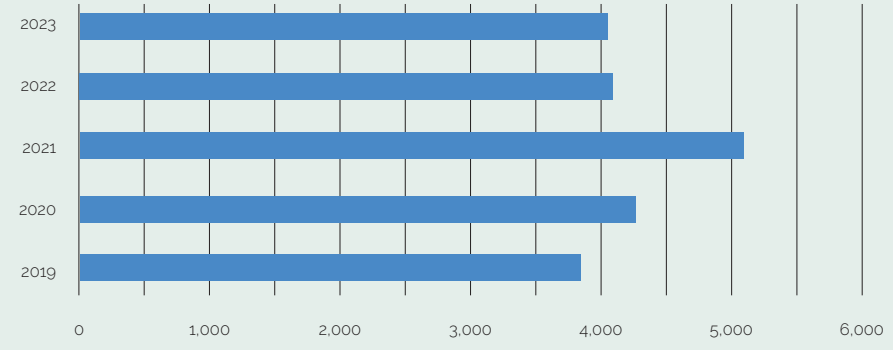
Perineal Outcome

The perineal outcome for women who had a vaginal birth is displayed in Table 4. Episiotomy rate for women last year was 19% which is a decrease from previous years and that is including our instrumental rate of 13%. The 3rd Degree Tear rate was 3% which is in line with international incidence.

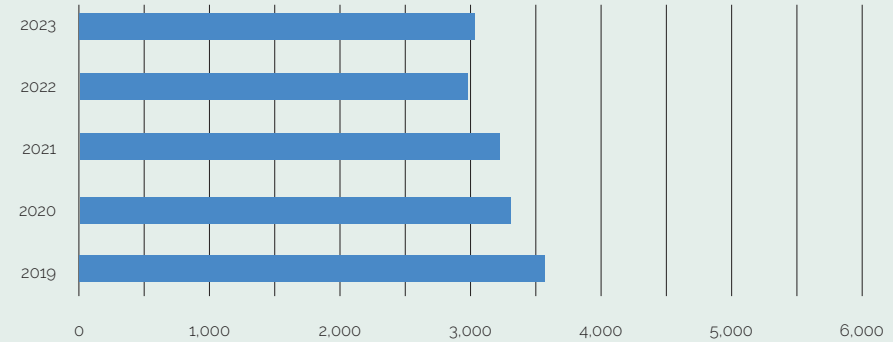
Breastfeeding

One of the key success indicators is the 91% of women are breastfeeding on discharge from the DOMINO service. We

External Clinic Attendances 2019-2023



Domino Clinic Attendances 2019-2023



feel the successful uptake of our antenatal breastfeeding classes, in conjunction with promotion of colostrum harvesting is instilling knowledge and confidence in women to choose this method of feeding. The home visits up to day 7-8 is also an added positive contributing factor in breastfeeding women.

DOMINO/Early Transfer Home Programme (ETHP) Postnatal Care

Table 6 outlines the number of visits for DOMINO and ETHP. A total of 10,396 visits to mothers and babies at home were provided in 2023. This is combined between ETH and DOMINO and Homebirth service as all visits are carried out between both teams depending on geographical location. Visits need to be assigned this way due to heavy traffic and ensuring a more productive approach of both team's time. The ETHP remains popular and midwives see all women on the postnatal ward prior to discharge to ensure they are suitable and wish for this service. Feedback continues to be positive about this service and, as previously stated the main advantage of this service is the high rate of women who manage to breastfeeding on discharge.

External Clinics

The combined obstetric midwifery clinics are provided in Loughinstown, Bray, Arklow, Greystones and Wicklow Town. Table 7 shows a breakdown of each clinic. A total of 450 women booked into these clinics and 4,050 women had appointments with a combination of consultant and midwiferyled care. The activity levels have increased year on year with a 11% increase on last year on women attending satellite clinics.

Other Developments

Katie Cosgrove was appointed CMM3 of Community Services in March 2023 as Teresa McCreery was appointed Assistant Director of Midwifery & Nursing to Community Services/Lactation Services and Designated Midwifery Officer for Homebirths. Katie has been a member of the team since 2012.

Homebirth with Community Midwife Bronwyn Nicol and Shauna Griffin.

The Community Team continue to promote professional development with 5 lactation consultants, 6 midwife prescribers, 8 qualified to perform examination of the newborn, 2 commencing training and due to be qualified in first half of 2024. 7 qualified in 'point of care' post-date scanning. The Community Team consistently strive to evolve and meet the needs of women within our care and this is reflective of the continuous drive and passion our midwives demonstrate to provide such high level of care for women in their community.

We are very proud of the continued collaboration with The National Maternity Hospital Foundation who have funded the updated positive affirmation cards. Research indicates very positive findings of their benefit to women who have used them. We aim to share these research findings in 2024 in relevant midwifery journals. Following on from the success of these affirmation cards, the team aims to complete another project creating affirmation cards for breastfeeding. These cards will have positive messages for women on one side and important breastfeeding information on the early days and beyond, which will include links to videos and other essential resources.

We are looking forward to 2024 as it marks the 25th Anniversary of the Community Midwifery service. We plan on marking it in April 2024 with key supporters, past and present midwives and service users.

To date the community services have provided midwifery care for over 35,000 women during their pregnancy and postbirth. The DOMINO and homebirth service have cared for over 10,000 women throughout their pregnancy, labour and into the postnatal period. This included facilitating just over 800 homebirths.

Katie Cosgrove, CMM3
Community Midwifery Manager.

Table 1: Planned Homebirth and Reason for Transfer

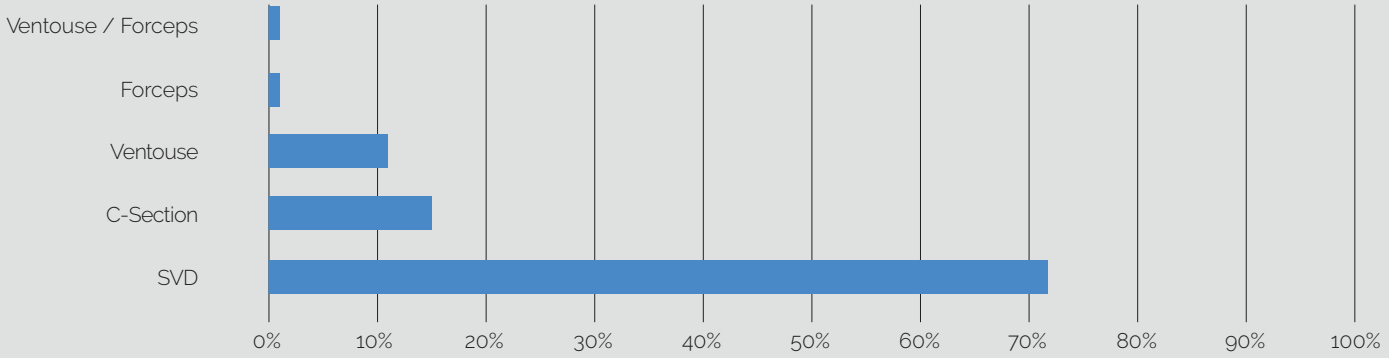
			Reasons For Transfer from Homebirth Service							
	Planned Homebirth	Actual Homebirth	PSROM	Post Dates	GBS	Fetal	Maternalrequest	Intrapartum Transfer	High risk	Other care provider
Multips	21	16	1	1	0	2	1	0	0	1
Nullips	14	3	1	0	2	2	2	2	1	0
Total	**35**	**19**	**2**	**1**	**2**	**4**	**3**	**2**	**1**	**1**

Table 2: Community Midwives Robson Ten Groups Classification of Caesarean Section

Robson Group	CS No.	Number of Delivery/Births	Size of Group %	CS rate in grp %	Contr of each grp %
Group 1	8	104	26.9%	7.7%	2.1%
Group 2	29	74	19.1%	39.2%	7.5%
Group 2a	24	69	17.8%	34.8%	6.2%
Group 2b	5	5	1.3%	100.0%	1.3%
Group 3	1	145	37.5%	0.7%	0.3%
Group 4	5	43	11.1%	11.6%	1.3%
Group 4a	1	39	10.1%	2.6%	0.3%
Group 4b	4	4	1.0%	100.0%	1.0%
Group 5	0	0	0.0%	0.0%	0.0%
Group 6	8	8	2.1%	100.0%	2.1%
Group 7	3	3	0.8%	100.0%	0.8%
Group 8	0	0	0.0%	0.0%	0.0%
Group 9	1	1	0.3%	100.0%	0.3%
Group 10	2	9	2.3%	22.2%	0.5%
Total	**57**	**387**		**14.7%**	**14.7%**

Table 3: Mode of Delivery and Perineum Outcome

Mode of Delivery



Perineum Outcome

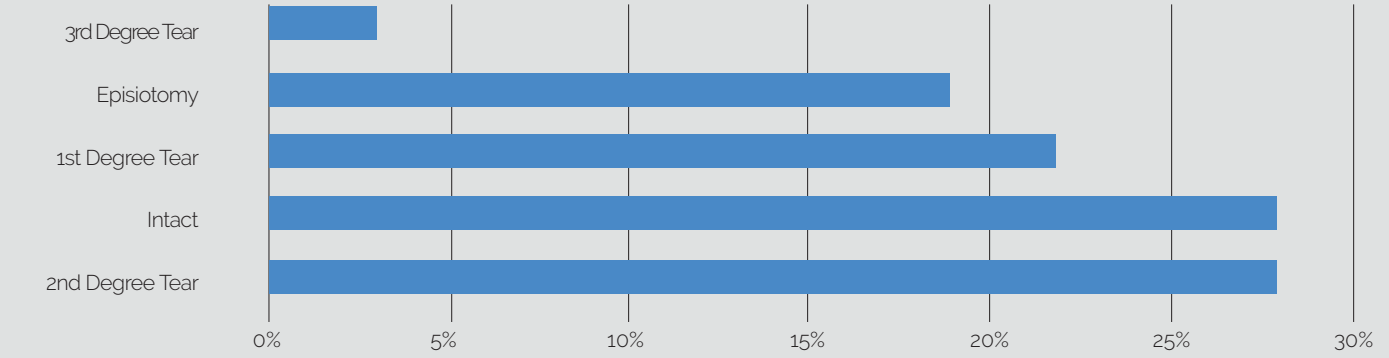


Table 4: Intrapartum Birthing Pool Use and Epidural Rate

Birthing Pool Use	No.	Births	%
Nullip	41	193	21%
Multip	27	194	14%
Total	**68**	**387**	**18%**

Epidural	No.	Births	%
Nullip	106	193	55%
Multip	34	194	18%
Total	**140**	**387**	**36%**

Table 5: DOMINO/Early Transfer Home Programme (ETHP) Postnatal Care Table of Visits

Clinic Name	Total Attended
DOMINO - Dublin Home Visits	2049
DOMINO - Wicklow Home Visits	884
Total	**2933**

Clinic Name	Total Attended
ETH - Dublin Home Visits	5959
ETH - Wicklow Home Visits	1504
Total	**7463**

Birth Reflections Service

Since April 2023, The National Maternity Hospital (NMH) offers a dedicated midwife led Birth Reflections Service to women who are currently pregnant and attending the NMH or who have given birth in The NMH within the past year.

The Birth Reflections Service is a listening service for women who wish to explore and reflect on their birth experience in a confidential and supportive environment.

Some women wish for greater clarity and understanding about the events surrounding their birth and others may feel worried or anxious about giving birth for the first and next time. Talking with our dedicated birth reflections midwife can help.

If a woman has given birth in the NMH, there will be an opportunity to go through the birth notes and answer questions relating to antenatal, intrapartum and postnatal events. If a woman has given birth at another hospital, they can be part of the discussion with the Birth Reflections Midwife once they have their Birth notes.

The Birth Reflections Midwife will meet women either in person or by phone depending on their individual needs. Women are seen at the NMH room in a satellite clinic or in a meeting room at the NMH.

The service generally offers a one-off appointment, however, depending on anyone's individualised needs, a further follow up appointment may be arranged.

The Birth Reflections service is not a complaints or counselling service. However, referral will be made to the relevant appropriate services.

Women can self-refer to the service or be referred by all Hospital clinicians, GP or Public Health nurse.

Helen McHale, CMM2 Birth Reflections.

Helen McHale, Birth Reflections Midwife and Sarah Louise Killeen PhD, Senior Dietician, who won the Best Nursing/Midwifery Led Innovation Project at HSE SPARK Summit 2023 for the IRIS Clinic; this clinic supports women with severe Hyperemesis.

Diabetes

The National Maternity Hospital provides a multidisciplinary diabetes in pregnancy service for women and there are two main components to the care delivered:

1. Women with Pre-Gestational Diabetes Mellitus (PGDM)
2. Women with Gestational Diabetes Mellitus (GDM)

SERVICE ACTIVITY

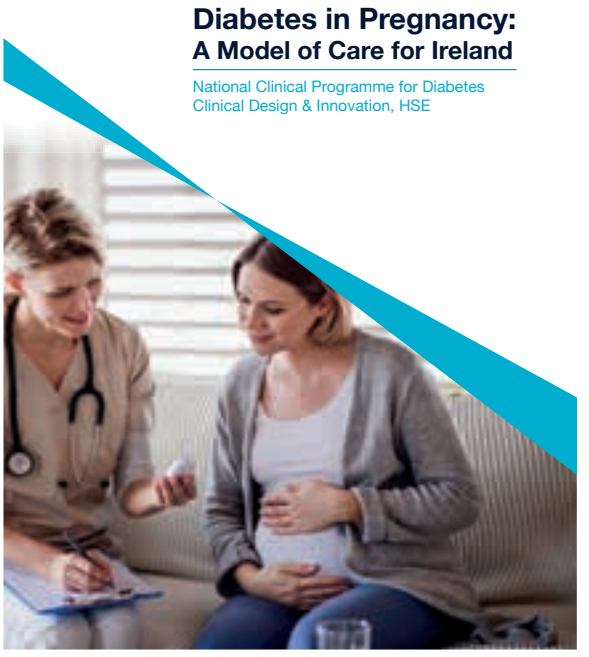
Pre-Gestational Diabetes Mellitus

The number of women attending NMH with Pre-Gestational Diabetes, Cystic Fibrosis Related Diabetes, MODY, LADA and other forms of diabetes accounted for ~15% of the diabetes service populawtion. The complexity of care and presence of co-morbidities continues to increase in this group with Chronic Kidney Disease and Retinopathy numbers increasing.

Diabetes Technology

The diabetes multidisciplinary team provide a comprehensive service for women using Continuous Insulin Pump Therapy (CSII) and continuous glucose monitoring (sensor) technology. The advent of the Hybrid Closed loop CSII has further developed the dynamic landscape of diabetes technology use in pregnancy. Smart Insulin Pens were also used for the first time this year following their launch into the Irish market and have proven invaluable for insulin and patient safety. The NMH is a tertiary referral centre for women using diabetes technology in pregnancy and the provision of this service requires commitment and continuous professional development from hardworking team members to keep up to date with the multiple and very rapid advices being made in diabetes technology internationally.

32% of the PGDM population used CSII in 2023 as the first full year of use of the hybrid closed loop system. The vast majority of women with PGDM used sensor technology.



Retinal Screening Pilot Site

In 2023 The National Maternity Hospital was the first pilot site for the launch of Diabetic Retinal Screening in Pregnancy in community hubs. Traditionally, these retinal assessments were conducted in the Mater Misericordiae Hospital, through the National Diabetic RetinaScreening Programme; they will now be done in the community setting with escalation to tertiary centres as clinically required. This pilot project was a resounding success and is now being launched nationally through the National Screening Programmes. Prof Mensud Hatunic and Ciara Coveney, Registered AMP (RAMP) Diabetes, will be on the National Advisory Group for this new pathway of care.

Gestational Diabetes Mellitus (GDM)

The midwifery-led gestational diabetes service, supported by dietetics, has provided a unique pathway of care for women attending the Hospital. The virtual GDM service has proven to be a success with invitations and presentations at multiple national and international midwifery and medical conferences. The midwifery team is completing a research study entitled "Maternal and neonatal outcomes following implementation of a Gestational Diabetes Virtual Clinic: A before and after comparative study". This research study has yielded promising initial results and is hoped to be published in early 2024.

Presentations by Diabetes Type

Year	Type 1 diabetes	Type 2 diabetes	GDM and Previous GDMs	Cystic Fibrosis Related Diabetes	MODY/ LADA^ Other	Total
2020	43	19	589	3	2	656
2021	47	17	774	6	0	844
2022	50	21	561	3	3	637
2023	43	22	525	2	14	606

*Maturity-onset diabetes of the young (MODY), Latent autoimmune diabetes of adults (LADA)

One of the most significant challenges this year has been concerns regarding non-attendance and non-compliance in care of GDM. We are developing a pathway of care to communicate with the general obstetric and midwifery teams when women are not attending for GDM team care. This is uncommon (about 5% of all women with GDM) but can result in increased risk of maternal, fetal and neonatal complications. We are well aware as a team that women can struggle with a diagnosis of GDM and

that this is an emotional diagnosis and we will continue to provide respectful care, that includes informing patients of the risks of noncompliance with advice and treatment.

This pathway is also made possible with the support of our dietetic colleagues whom in particular provide ongoing expert input for this cohort, and is supported by endocrinology, obstetrics and the wider MDT. Following the development of this RAMP-led service, we have seen a reduction in overall pharmacological treatment rates this year. Of 525 (87% of total service referrals) women with GDM, 149 required pharmacological therapy (95 women required insulin and 54 required metformin). This yields a total treatment rate of 28%, meaning that 72% of women diagnosed with GDM remain in RAMP-led care. This is reduced based on a treatment rate of 32% in 2022.

Quality Improvement Project

In 2023 the diabetes midwifery team introduced "Hypo Boxes" to all clinical areas. These boxes contained multiple ways to treat hypoglycaemia and a quick referencealgorithm to help clinical staff in the fast identification, diagnosis andtreatment of hypoglycaemia. This patient safety initiative was well received by clinical staff and followed intensive training in clinical areas. Clinical updates were provided for diabetes emergencies ranging from significant hypoglycaemia to the management of diabetic ketoacidosis.

Collaborative Work

The diabetes team continues to work in collaboration with other centres to help support diabetes in pregnancy services. Ciara Coveney has provided consultation for the HSE and other hospital sites to assist in the set up of Pre-Conceptual clinics, Virtual Clinics and the use of diabetes technology. Ciara also attended the triannual congress of the International Confederation of Midwives in Bali, Indonesia and presented initial research results of a comparative study of maternal and neonatal outcomes following implementation of AMP-led Virtual Clinics to the Royal College of Midwives. Prof M Hatunic delivered a talk about "Cystic Fibrosis Related Diabetes" at the Diabetes in Pregnancy UK Conference.

Diabetes Dietitians

The dietitians provide a patient-centered dietetic service within the multidisciplinary diabetes team. Dietetic advice is given in face to face consultations, virtual classes, virtual individual sessions and phone call reviews aiming to suit the needs of the woman. Close discussion with relevant team members is of paramount importance as complex medical needs during pregnancy are addressed.

Review of recent NMH dietetic data shows that 64% of those who were diagnosed with GDM during 2023 had an individual consultation with the dietitian. 97% percent of women with GDM who commenced pharmacological treatment were seen by the dietitian. This is in line with dietetic KPI's.

The ongoing advancement of technology in the management of pre-gestation diabetes has resulted in many pregnant women attending using different types of insulin pumps and glucose sensors. A team approach is required to navigate use of technology in diabetes. The dietitian aims to support the woman with carbohydrate counting, to ensure that her intake is nutritionally adequate at the different stages of pregnancy and to address issues such as CF related diabetes, nausea and vomiting of pregnancy, coeliac disease, excessive weight gain, anemia, etc.

The team is committed, hardworking and multidisciplinary with excellent representation from dietetics (Catherine Chambers, Sinead O'Donovan), midwifery (Ciara Coveney, Eimear Rutter, Sally Byrne and Hannah Rooney), endocrinology (Prof Mensud Hatunic, Dr David Fennell (Fellow)) Obstetrics (Prof Mary Higgins, Prof Jennifer Walsh; Prof Rhona Mahony, Dr Gillian Corbett (Fellow) and Administration (Helen McCrimmon).

Dr David Fennell completed his first year of his MD/Endocrinology fellowship. His area of research focuses on a comparison of pregnancy outcomes associated with different screening methods for gestational diabetes.

Diabetes and Pregnancy model of care – Profs Mary Higgins and Mensud Hatunic and Ciara Coveney, AMP, are continuing their work in developing a national Model of Care for Diabetes in Pregnancy for Ireland.

It is a pleasure to continue to work with this team in the care of women with complex medical needs.

Prof Mary Higgins, Consultant Obstetrician & Gynaecologist & Ciara Conveney, AMP Diabetes.

Labour and Birthing Unit

In 2023, there were 6,764 births in The National Maternity Hospital (NMH). Of these, 4,321 (64.7%) were born vaginally in the Labour and Birthing Unit (LBU). The focus on safe delivery of care to women and their partners in labour and those being induced continued in 2023. Midwives remain committed to the vision for maternity services, as set out by the Maternity Strategy, which places women and children at the centre of the care they provide. Midwives recognise that pregnancy and birth is a normal physiological process, and insofar as it is safe to do so, a woman's choice of maternity care is facilitated.

While the overall number of women attending the LBU for care in labour decreased, the complexity of women and the induction of labour rate continues to be a challenge. While patients at the NMH are always encouraged to deliver vaginally where possible, maternal choice is part of the hospital philosophy and will always be respected.

The overall induction of labour (IOL) rate remained at 38%. However, there was an increase in the pre-labour caesarean section (CS) rate from 21.9% in 2022 to 23.4% in 2023. The pre-labour CS rate a decade previous in 2013 was 13.9%. Nulliparous women are currently more likely to undergo induction of labour or have a pre-labour CS rather than experience spontaneous onset of labour. More women are having their first baby at an older age. 48.6% of all mothers who gave birth in the NMH in 2023 were over 35 years old. Older age coupled with assisted reproduction and co-morbidities in women getting pregnant and with an expectation for smaller family sizes contributes to the rising caesarean section rates.

While the birth rate has decreased, the hospital has had difficulty documenting the complexity of the midwifery care required to safely care for women in labour. In May of 2023, the Birthrate Plus® became operational in the LBU. Birthrate Plus® is a workforce planning and decision making system for assessing the needs of women for midwifery care throughout pregnancy, labour, and the postnatal period both in hospital and community settings. The methodology has been in constant use in the UK since 1988. It calculates the required number of midwives to meet all the needs of women and babies in relation to defined standards and models of care, whilst incorporating local workforce planning factors.

Anna Killoran, Student Midwife, Sheeba Masih, CMM2 and Staff Midwife Lesley Ann Gannon with Dr Mohammed Elshaikh, Labour Ward Fellow.

Not every woman requires the same level of care nor the same amount of midwifery time during her pregnancy, labour and postnatal period. Using Birthrate Plus® supports managers to match their staffing requirement to the clinical needs of women. This workforce planning tool is being adapted hospital wide in 2024. It will support staff rostering and staff allocation on a daily basis depending on the clinical needs of the women in different areas of the hospital.

Retention of staff continued to be challenge in 2023. The LBU saw the departure of many midwives to travel to other countries or to promoted posts. Despite these challenges, midwives of the LBU continued to mentor student midwives, medical students, general student nurses, paramedic students and physiotherapy students as part of their daily role while being committed to providing care to women that is high quality, safe, evidence based and respectful of the woman's individual choice and needs.

Martina Cronin, CMM3 Labour and Birth & Antenatal Inpatient Services.

Labour and Delivery (including Caesarean Section)

Audit of maternal and fetal outcome following labour and delivery in this chapter is based on a standardised prospective framework consisting of the four obstetric concepts within which there are different parameters. The obstetric concepts are Previous record of the pregnancy (nulliparous, multiparous without a uterine scar, multiparous with a uterine scar) Category of pregnancy (single cephalic pregnancy, single breech pregnancy, single oblique or transverse lie, or multiple pregnancy) course of labour and delivery (spontaneous labour, induced labour or pre labour caesarean) and gestational age in completed weeks at the time of delivery. These concepts are mutually exclusive and totally inclusive.

Population changes of nulliparous women and multiparous women

	1999				2021			
	Number in group	Number of C/S	Contribution to total population	% C/S	Number in group	Number of C/S	Contribution to total population	% C/S
Nullip	3465	562	3465/7533 (46.0%)	562/3465 (16.2%)	3256	1076	3256/7694 (42.3%)	1076/3256 (33.0%)
Multip no scars	3559	185	3559/7533 (47.2%)	185/3559 (5.2%)	3260	366	3260/7694 (42.3%)	366/3260 (11.2%)
Multip + 1 scar	450	169	450/7533 (6.0%)	169/450 (37.6%)	945	736	945/7694 (12.2%)	736/945 (77.9%)
Multip + 2 or more scars	59	58	59/7533 (0.8%)	58/59 (98.3%)	233	233	233/7694 (3.0%)	233/233 (100%)
Totals	**7533**	**974**		**974/7533 (12.9%)**	**7694**	**2411**		**2411/7694 (31.3%)**

	2022				2023			
	Number in group	Number of C/S	Contribution to total population	% C/S	Number in group	Number of C/S	Contribution to total population	% C/S
Nullip	2910	1097	2910/6815 (42.7%)	1097/2910 (37.7%)	3084	1195	3084/6764 (45.6%)	1195/3084 (38.7%)
Multip no scars	2811	312	2811/6815 (41.2%)	312/2811 (11.1%)	2567	293	2567/6764 (38%)	293/2567 (11.4%)
Multip + 1 scar	882	721	882/6815 (12.9%)	721/882 (81.7%)	883	730	883/6764 (13.1%)	730/883 (82.7%)
Multip + 2 or more scars	212	211	212/6815 (3.1%)	211/212 (99.5%)	230	225	230/6764 (3.4%)	225/230 (97.8%)
Totals	**6815**	**2341**		**2341/6815 (34.4%)**	**6764**	**2443**		**2443/6764 (36.1%)**

Comment: There has been a decrease in total deliveries.

Onset Rates

	1999	%	2013	%	2021	%	2022	%	2023	%
Spontaneous	5062	67.2%	5214	59.6%	3434	44.6%	2711	39.8%	2578	38.1%
Induced	2006	26.6%	2323	26.5%	2644	34.4%	2611	38.3%	2604	38.5%
Pre-labour CS	466	6.2%	1218	13.9%	1616	21.0%	1493	21.9%	1582	23.4%
Total Deliveries	**7534**		**8755**		**7694**		**6815**		**6764**	

Comment: *The incidence of IOL and pre-labour CS continues to increase.*

Overall Delivery Method

	2017	%	2019	%	2021	%	2022	%	2023	%
Spontaneous Vaginal Delivery	5048	59.9%	4498	57.1%	4348	56.5%	3706	54.4%	3502	51.8%
Vaginal Operative Delivery	1094	13.0%	989	12.6%	935	12.2%	768	11.3%	819	12.1%
Caesarean Section	2291	27.2%	2384	30.3%	2411	31.3%	2341	34.4%	2443	36.1%
Total	**8433**		**7871**		**7694**		**6815**		**6764**	

C-Section Rate by Pathway to Delivery

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	2578	184	2578/6764 (38.1%)	184/6764 (2.7%)
Induced labour	2604	677	2604/6764 (38.5%)	677/6764 (10%)
Pre labour c-section	1582	1582	1582/6764 (23.4%)	1582/6764 (23.4%)
Totals	**6764**	**2443**		**2443/6764 (36.1%)**

Oxytocin Rates

	Nullip	Multip no scar	Multip +scar	Total
No Oxytocin	1382 (44.8%)	1906 (74.3%)	1092 (98.1%)	4380 (64.8%)
Oxytocin	1702 (55.2%)	661 (25.7%)	21 (1.9%)	2384 (35.2%)
Total	**3084**	**2567**	**1113**	**6764**

Table I: The overall caesarean section rate as classified by the 10 groups (total numbers)

Year	1974*	1984*	1994*	2017	2018	2019	2020	2021	2022	2023
Totals	**377/7546**	**330/7758**	**551/6244**	**2291/8433**	**2157/7496**	**2384/7871**	**2279/7263**	**2411/7694**	**2341/6815**	**2443/6764**
1	46/2020	63/2259	80/1771	155/1716	147/1515	127/1468	113/1283	137/1322	118/992	108/1006
2	68/555	41/378	104/566	566/1479	525/1249	697/1544	646/1531	645/1527	694/1525	802/1690
2a				426/1337	363/1085	490/1336	449/1334	436/1318	515/1346	555/1443
2b				142	162/164	207/208	197/197	209/209	179/179	247/247
3	24/3217	15/3739	25/2467	28/2223	34/2038	20/1946	11/1567	24/1700	15/1358	14/1258
4	88/967	19/562	38/622	132/1079	178/994	152/1053	177/1112	179/1281	181/1230	174/1112
4a				48/995	72/888	46/947	50/985	58/1160	74/1123	76/1014
4b				84	106	106	127/127	121/121	107/107	98/98
5	32/196	74/332	108/321	748/986	712/917	816/1024	792/979	858/1041	812/955	825/964
6	26/79	27/79	65/99	222/229	165/175	176/191	143/152	170/181	166/177	146/158
7	7/105	14/98	40/78	124/141	105/121	143/156	123/133	110/120	76/87	84/96
8	10/93	18/96	25/78	123/190	92/103	87/129	93/136	105/156	101/130	79/107
9	20	23	15	30	38/38	32/32	45/45	40/40	27/27	37/37
10	**56/294**	**36/192**	**51/227**	**163/360**	**161/346**	**134/328**	**136/325**	**143/326**	**151/334**	**174/336**

** Years 1974, 1984 and 1994 were not split up into 2a, 2b and 4a, 4b. The numbers are inclusive of inductions and pre labour caesarean sections*

Table II: The contribution that each group makes to the overall hospital population (percentages)

Year	1974	1984	1994	2017	2018	2019	2020	2021	2022	2023
1	26.7%	29.1%	28.4%	20.3%	20.2%	18.7%	17.7%	17.2%	14.6%	14.9%
2	7.4%	4.9%	9.1%	17.5%	16.7%	19.6%	21.1%	19.8%	22.4%	25.0%
2a				15.9%	14.5%	17.0%	18.4%	17.1%	19.8%	21.3%
2b				1.7%	2.2%	2.6%	2.7%	2.7%	2.6%	3.7%
3	42.6%	48.2%	39.5%	26.4%	27.2%	24.7%	21.6%	22.1%	19.9%	18.6%
4	12.8%	7.2%	10.0%	12.8%	13.3%	13.4%	15.3%	16.6%	18.0%	16.4%
4a				11.8%	11.8%	12.0%	13.6%	15.1%	16.5%	15.0%
4b				1.0%	1.4%	1.3%	1.7%	1.6%	1.6%	1.4%
5	2.6%	4.3%	5.1%	11.7%	12.2%	13.0%	13.5%	13.5%	14.0%	14.3%
6	1.1%	1.0%	1.6%	2.7%	2.3%	2.4%	2.1%	2.4%	2.6%	2.3%
7	1.4%	1.3%	1.2%	1.7%	1.6%	2.0%	1.8%	1.6%	1.3%	1.4%
8	1.2%	1.2%	1.2%	2.3%	1.4%	1.6%	1.9%	2.0%	1.9%	1.6%
9	0.3%	0.3%	0.2%	0.4%	0.5%	0.4%	0.6%	0.5%	0.4%	0.5%
10	3.9%	2.5%	3.6%	4.3%	4.6%	4.2%	4.5%	4.2%	4.9%	5.0%

Table III: The caesarean section rate within each of the 10 groups (percentages)

Year	1974	1984	1994	2017	2018	2019	2020	2021	2022	2023
Totals	**5.0%**	**4.3%**	**8.8%**	**27.2%**	**28.8%**	**30.3%**	**31.4%**	**31.3%**	**34.4%**	**36.1%**
1	2.3%	2.8%	4.5%	9.0%	9.7%	8.7%	8.8%	10.4%	11.9%	10.7%
2	12.3%	10.8%	18.3%	38.3%	42.0%	45.1%	42.2%	42.2%	45.5%	47.5%
2a				31.9%	33.5%	36.7%	33.7%	33.1%	38.3%	38.5%
2b				100.0%	98.8%	99.5%	100.0%	100.0%	100.0%	100.0%
3	0.7%	0.4%	1.0%	1.3%	1.7%	1.0%	0.7%	1.4%	1.1%	1.1%
4	9.1%	3.4%	6.1%	12.2%	17.9%	14.4%	15.9%	14.0%	14.7%	15.6%
4a				4.8%	8.1%	4.9%	5.1%	5.0%	6.6%	7.5%
4b				100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
5	16.3%	22.3%	33.5%	75.9%	77.6%	79.7%	80.9%	82.4%	85.0%	85.6%
6	32.9%	34.2%	65.0%	96.9%	94.3%	92.1%	94.1%	93.9%	93.8%	92.4%
7	6.7%	14.3%	50.6%	87.9%	86.8%	91.7%	92.5%	91.7%	87.4%	87.5%
8	10.8%	18.8%	31.6%	64.7%	89.3%	67.4%	68.4%	67.3%	77.7%	73.8%
9	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
10	19.0%	18.8%	22.4%	45.3%	46.5%	40.9%	41.8%	43.9%	45.2%	51.8%

Table IV: The absolute contribution of each group to the overall caesarean section rate percentages)

Year	1974	1984	1994	2017	2018	2019	2020	2021	2022	2023
Totals	5.0%	4.3%	8.8%	27.2%	28.8%	30.3%	30.4%	31.3%	34.4%	36.1%
1	0.7%	0.8%	1.7%	1.8%	2.0%	1.6%	1.6%	1.8%	1.7%	1.6%
2	0.9%	0.5%	0.4%	6.7%	7.0%	8.9%	8.9%	8.4%	10.2%	11.9%
2a				5.1%	4.8%	6.2%	6.2%	5.7%	7.6%	8.2%
2b				1.7%	2.2%	2.6%	2.7%	2.7%	2.6%	3.7%
3	0.3%	0.2%	0.4%	0.3%	0.5%	0.3%	0.2%	0.3%	0.2%	0.2%
4	1.2%	0.2%	0.6%	1.6%	2.4%	1.9%	2.4%	2.3%	2.7%	2.6%
4a				0.6%	1.0%	0.6%	0.7%	0.8%	1.1%	1.1%
4b				1.0%	1.4%	1.3%	1.7%	1.6%	1.6%	1.4%
5	0.4%	1.0%	1.7%	8.9%	9.5%	10.4%	10.9%	11.2%	11.9%	12.2%
6	0.3%	0.3%	1.0%	2.6%	2.2%	2.2%	2.0%	2.2%	2.4%	2.2%
7	0.1%	0.2%	0.6%	1.5%	1.4%	1.8%	1.7%	1.4%	1.1%	1.2%
8	0.1%	0.2%	0.4%	1.5%	1.2%	1.1%	1.3%	1.4%	1.5%	1.2%
9	0.3%	0.3%	0.2%	0.4%	0.5%	0.4%	0.6%	0.5%	0.4%	0.5%
10	0.7%	0.5%	0.8%	1.9%	2.1%	1.7%	1.9%	1.9%	2.2%	2.6%

Groups

1. Nulliparous, single cephalic, >=37 weeks, in spontaneous labour
2. Nulliparous, single cephalic, >=37 weeks, induced and CS before labour
    2a. Nulliparous, single cephalic, >=37 weeks, induced
    2b. Nulliparous, single cephalic, >=37 weeks, CS before labour
3. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, in spontaneous labour
4. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, induced and CS before labour
    4a. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, induced
    4b. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, CS before labour
5. Previous CS, single cephalic, >= 37 weeks
6. All nulliparous breeches
7. All multiparous breeches (including prev. CS)
8. All multiple pregnancies (including prev. CS)
9. All abnormal lies (including prev. CS)
10. All single cephalic, <= 36 weeks (including prev. CS)

Robson Ten Groups Classification of Caesarean Section 2023

	CS No. / No. of Deliveries	Size of Group %	CS rate in grp %	Contr of each grp %
1. Nulliparous, single cephalic, >=37 weeks, in spontaneous labour	108 / 1006	14.9%	10.7%	1.6%
2. Nulliparous, single cephalic, >=37 weeks, induced and CS before labour	802 / 1690	25.0%	47.5%	11.9%
3. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, in spontaneous labour	14 / 1258	18.6%	1.1%	0.2%
4. Multiparous (excluding prev. CS), single cephalic, >=37 weeks, induced and CS before labour *	174 / 1112	16.4%	15.6%	2.6%
5. Previous CS, single cephalic, >= 37 weeks	825 / 964	14.3%	85.6%	12.2%
6. All nulliparous breeches	146 / 158	2.3%	92.4%	2.2%
7. All multiparous breeches (including prev. CS)	84 / 96	1.4%	87.5%	1.2%
8. All multiple pregnancies (including prev. CS)	79 / 107	1.6%	73.8%	1.2%
9. All abnormal lies (including prev. CS)	37 / 37	0.5%	100.0%	0.5%
10. All single cephalic,<=36 weeks (including prev. CS)	174 / 336	5.0%	51.8%	2.6%
Total	**2443 / 6764**		**36.1%**	**36.1%**

Indications for Caesarean Section by Pathway to Delivery

Tables 1 and 2 show the indications for CS within the TGCS. A different classification is used for pre labour CS and those carried out after either spontaneous or induced labour. A great deal of effort is needed to ensure that the classification is correctly applied and the data validated and quality controlled. In these tables although the quality is good there remain discrepancies which we continue to seek to improve.

Table 1: Spontaneous / Induced Caesarean Section Reason 860 / 6764 (12.7%)

	Fetal reason (no oxytocin)	% of Group	IUA - Inability to treat fetal intolerance	% of Group	IUA - Inability to treat over contracting	% of Group	IUA - Poor response	% of Group	IUA - No oxytocin given	% of Group	EUA - Persistent malposition	% of Group	EUA - Cephalopelvic disproportion	% of Group	Total	% of Group
Group 1	37	3.7%	33	3.3%	4	0.4%	14	1.4%	3	0.3%	15	1.5%	2	0.2%	108/1006	10.7%
Group 2a	98	6.8%	209	14.5%	12	0.8%	170	11.8%	35	2.4%	24	1.7%	6	0.4%	554/1443	38.4%
Group 2b	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/247	0.0%
Group 3	7	0.6%	2	0.2%	0	0.0%	2	0.2%	1	0.1%	2	0.2%	0	0.0%	14/1258	1.1%
Group 4a	25	2.5%	18	1.8%	6	0.6%	18	1.8%	2	0.2%	5	0.5%	2	0.2%	76/1014	7.5%
Group 4b	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/98	0.0%
Group 5	15	1.6%	0	0.0%	4	0.4%	4	0.4%	18	1.9%	3	0.3%	0	0.0%	44/964	4.6%
Group 6	14	8.9%	1	0.6%	1	0.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16/158	10.1%
Group 7	8	8.3%	0	0.0%	0	0.0%	0	0.0%	1	1.0%	0	0.0%	0	0.0%	9/96	9.4%
Group 8	2	1.9%	0	0.0%	0	0.0%	2	1.9%	0	0.0%	0	0.0%	0	0.0%	4/107	3.7%
Group 9	3	8.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3/37	8.1%
Group 10	15	4.5%	5	1.5%	0	0.0%	6	1.8%	2	0.6%	3	0.9%	1	0.3%	32/336	9.5%
Total	**224**	**3.3%**	**268**	**4.0%**	**27**	**0.4%**	**216**	**3.2%**	**62**	**0.9%**	**52**	**0.8%**	**11**	**0.2%**	**860/6764**	**12.7%**

Table 2: Pre-labour Caesarean Section Reason: 1582/6764 (23.4%)

	Fetal reason	% of Group	Maternal medical reason/ pains	% of Group	Non medical reason/ patient request	% of Group	PET/ Hypertension	% of Group	Postdates	% of Group	Previous caesarean section	% of Group	SROM	% of Group	Total	% of Group
Group 1	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/1006	0.0%
Group 2a	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/1443	0.0%
Group 2b	65	26.3%	61	24.7%	105	42.5%	11	4.5%	4	1.6%	0	0.0%	1	0.4%	247/247	100.0%
Group 3	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/1258	0.0%
Group 4a	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0/1014	0.0%
Group 4b	32	32.7%	37	37.8%	27	27.6%	1	1.0%	0	0.0%	0	0.0%	1	1.0%	98/98	100.0%
Group 5	33	3.4%	28	2.9%	1	0.1%	7	0.7%	0	0.0%	699	72.5%	13	1.3%	781/964	81.0%
Group 6	122	77.2%	0	0.0%	0	0.0%	3	1.9%	0	0.0%	0	0.0%	5	3.2%	130/158	82.3%
Group 7	45	46.9%	5	5.2%	1	1.0%	0	0.0%	0	0.0%	23	24.0%	1	1.0%	75/96	78.1%
Group 8	55	51.4%	2	1.9%	2	1.9%	5	4.7%	0	0.0%	9	8.4%	2	1.9%	75/107	70.1%
Group 9	24	64.9%	4	10.8%	1	2.7%	1	2.7%	0	0.0%	2	5.4%	2	5.4%	34/37	91.9%
Group 10	83	24.7%	28	8.3%	0	0.0%	21	6.3%	0	0.0%	6	1.8%	4	1.2%	142/336	42.3%
Total	**459**	**6.8%**	**165**	**2.4%**	**137**	**2.0%**	**49**	**0.7%**	**4**	**0.1%**	**739**	**10.9%**	**29**	**0.4%**	**1582/6764**	**23.4%**

Groups 1 and 2
Total single cephalic nulliparous pregnancies at greater than or equal to 37 weeks' gestation (n=2696)

Spontaneous labour	Induced labour	Pre labour C/S
1006/2696 (37.3%)	1443/2696 (53.5%)	247/2696 (9.2%)

Caesarean section contribution according to onset of delivery, in single cephalic nulliparous pregnancies at greater than or equal to 37 weeks' gestation 910/2696 (33.8%)

Spontaneous labour	108/2696	4.0%
Induced labour	555/2696	20.6%
Pre labour C/S	247/2696	9.2%

Group 1
Caesarean section rate of single cephalic nulliparous pregnancies at greater than or equal to 37 weeks gestation in spontaneous labour 108/1006 (10.7%)

Fetal reason (no oxytocin)	37/1006	3.7%
IUA - Inability to treat fetal intolerance	33/1006	3.3%
IUA - Inability to treat over contracting	4/1006	0.4%
IUA - Poor response	14/1006	1.4%
IUA - No oxytocin given	3/1006	0.3%
EUA - Persistent malposition	15/1006	1.5%
EUA - Cephalopelvic disproportion	2/1006	0.2%

Outcomes

Group 1	2023		2022	2021	2020	2017
ARM	47.2%	475/1006	49.8%	45.8%	49.8%	49.9%
Prostaglandin/Propess	0.0%	0/1006	0.0%	-	-	-
Oxytocin	47.6%	479/1006	45.6%	44.2%	53.8%	47.3%
Epidural	75.4%	759/1006	74.9%	66.9%	76.0%	68.4%
Electronic monitoring	91.9%	925/1006	89.4%	85.0%	91.4%	92.0%
Fetal blood sample	5.3%	53/1006	8.2%	8.3%	13.1%	18.8%
Vaginal operative delivery	28.8%	290/1006	28.7%	28.9%	29.2%	28.7%
Apgars <7 at 5 mins	0.9%	9/1006	0.6%	1.1%	0.5%	1.0%
Cord pH < 7.0	0.4%	4/1006	0.7%	-	0.0%	0.4%
Overall caesarean section	10.7%	108/1006	11.9%	10.4%	8.8%	9.0%
Caesarean section at VE=10	1.3%	13/1006	1.4%	1.3%	0.9%	1.5%
Admitted to Neonatal Unit	8.7%	88/1006	9.5%	8.9%	8.6%	18.8%
Episiotomy	49.8%	501/1006	47.4%	48.8%	49.0%	45.7%
*OASIS	3.4%	34/1006	2.3%	2.2%	3.0%	2.2%
Length of labour >12 hrs	2.8%	28/1006	1.4%	2.8%	2.4%	5.1%
Babies >=4.0kg	8.3%	84/1006	10.8%	12.4%	12.2%	12.7%
Aged >=35	25.0%	252/1006	28.5%	26.5%	31.3%	26.6%
BMI >=30	13.6%	137/1006	8.8%	9.1%	9.4%	8.6%
PPH >= 1000mls	7.1%	71/1006	5.2%	3.9%	3.4%	2.9%
HIE	0.2%	2/1006	0.1%	0.0%	0.0%	0.1%
Blood transfusion	2.5%	25/1006	1.5%	2.0%	1.6%	2.7%

* *includes Epi and Sphincter (n=9)*

Age Range	Number	%
<20	20	2.0%
20 - 24	75	7.5%
25 - 29	183	18.2%
30 - 34	476	47.3%
35 - 39	226	22.5%
>=40	26	2.6%
Unrecorded	0	0.0%
Total	**1006**	

Body Mass Index	Number	%
Underweight: <18.5	17	1.7%
Healthy: 18.5 - 24.9	621	61.7%
Overweight: 25 - 29.9	241	24.0%
Obese class 1: 30 - 34.9	68	6.8%
Obese class 2: 35 - 39.9	22	2.2%
Obese class 3: >40	8	0.8%
Unrecorded	29	2.9%
Total	**1006**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	0	0.0%
2,000 - 2,499 g	7	0.7%
2,500 - 2,999 g	127	12.6%
3,000 - 3,499 g	416	41.4%
3,500 - 3,999 g	372	37.0%
4,000 - 4,449 g	77	7.7%
4,500 - 4,999 g	7	0.7%
>= 5,000 g	0	0.0%
Total	**1006**	

Labour Duration	Number	%
0 - 2 hrs	102	10.1%
2 - 4 hrs	150	14.9%
4 - 6 hrs	202	20.1%
6 - 8 hrs	205	20.4%
8 - 10 hrs	124	12.3%
10 - 12 hrs	65	6.5%
> 12 hrs	28	2.8%
Unrecorded	130	12.9%
Total	**1006**	

Group 1 & 2 (as the denominator):
Single cephalic nulliparous pregnancies at greater than or equal to 37 weeks' gestation. Indications for induction of labour (Group 2a) 1443/2696 (53.5%).

Fetal	466/2696	17.3%
SROM not in labour	363/2696	13.5%
Postdates (>40 and less than 42 weeks)	207/2696	7.7%
Maternal	188/2696	7.0%
PET/Hypertension	120/2696	4.5%
Postterm (>= 42 weeks)	74/2696	2.7%
Maternal Request	25/2696	0.9%
Total	**1443/2696**	**53.5%**

Comment: Many of the maternal indications, when reviewed, are actually really fetal. This requires continuous validation.

Group 2a

Caesarean section rates according to indication for induction in single cephalic nulliparous pregnancies at greater than or equal to 37 weeks gestation 554/1443 (38.4%).

	Fetal reason (no oxytocin)		IUA - Inability to treat fetal intolerance		IUA - Inability to treat over contracting		IUA - Poor response		IUA - No oxytocin given		EUA - Cephalopelvic disproportion		EUA - Persistent malposition	
Fetal 179/466 (38.4%)	47	10.1%	56	12.0%	4	0.9%	44	9.4%	19	4.1%	1	0.2%	8	1.7%
SROM not in labour 139/363 (38.3%)	8	2.2%	55	15.2%	2	0.6%	62	17.1%	1	0.3%	4	1.1%	7	1.9%
Postdates (>40 and less than 42 weeks) 92/207 (44.4%)	17	8.2%	37	17.9%	1	0.5%	28	13.5%	6	2.9%	0	0.0%	3	1.4%
Maternal 57/188 (30.3%)	6	3.2%	21	11.2%	2	1.1%	21	11.2%	3	1.6%	1	0.5%	3	1.6%
PET/ Hypertension 48/120 (40%)	15	12.5%	18	15.0%	1	0.8%	10	8.3%	2	1.7%	0	0.0%	2	1.7%
Postterm (>= 42 weeks) 29/74 (39.2%)	4	5.4%	15	20.3%	2	2.7%	3	4.1%	4	5.4%	0	0.0%	1	1.4%
Maternal Request 10/25 (40%)	1	4.0%	7	28.0%	0	0.0%	2	8.0%	0	0.0%	0	0.0%	0	0.0%
Total 554/1443 (38.4%)	**98**	**6.8%**	**209**	**14.5%**	**12**	**0.8%**	**170**	**11.8%**	**35**	**2.4%**	**6**	**0.4%**	**24**	**1.7%**

Outcomes

Group 2(a)	2023		2022	2021	2020	2017
ARM	56.3%	813/1443	55.9%	48.2%	52.6%	62.8%
Prostaglandin/Propess	57.9%	835/1443	53.9%	39.2%	50.4%	55.2%
Oxytocin	80.1%	1156/1443	79.3%	70.9%	81.3%	72.1%
Epidural	85.0%	1226/1443	84.8%	73.2%	82.8%	91.8%
Electronic monitoring	98.5%	1421/1443	97.8%	87.3%	98.7%	92.6%
Fetal blood sample	6.7%	97/1443	12.6%	-	19.6%	29.6%
Vaginal operative delivery	25.6%	370/1443	24.1%	-	27.0%	0.0%
Apgars <7 at 5 mins	0.8%	11/1443	1.2%	1.0%	1.6%	1.3%
Cord pH < 7.0	0.3%	5/1443	0.6%	-	0.0%	0.2%
Overall caesarean section	38.5%	555/1443	38.3%	33.1%	33.7%	31.9%
Caesarean section at VE=10	1.8%	26/1443	1.6%	2.0%	1.8%	2.4%
Admitted to Neonatal Unit	15.6%	225/1443	11.4%	14.0%	13.2%	29.8%
Episiotomy	39.8%	574/1443	39.5%	39.8%	42.0%	40.9%
*OASIS	2.1%	30/1443	1.6%	1.7%	1.6%	1.4%
Length of labour >12 hrs	3.9%	56/1443	4.4%	4.7%	3.8%	9.1%
Babies >=4.0kg	15.0%	216/1443	16.2%	16.3%	17.5%	19.5%
Aged >=35	33.8%	488/1443	34.8%	36.6%	41.5%	32.8%
BMI >=30	21.3%	307/1443	21.0%	18.5%	19.9%	12.4%
PPH >= 1000mls	8.1%	117/1443	6.5%	6.6%	6.2%	6.9%
HIE	0.1%	1/1443	0.1%	0.4%	0.3%	0.0%
Blood transfusion	2.1%	31/1443	3.0%	2.2%	1.6%	4.2%

**includes Episiotomy and Sphincter Damage (n=11)*

Age Range	Number	%
<20	17	1.2%
20 - 24	103	7.1%
25 - 29	221	15.3%
30 - 34	614	42.6%
35 - 39	388	26.9%
>=40	100	6.9%
Unrecorded	0	0.0%
Total	**1443**	

Body Mass Index	Number	%
Underweight: <18.5	15	1.0%
Healthy: 18.5 - 24.9	717	49.7%
Overweight: 25 - 29.9	419	29.0%
Obese class 1: 30 - 34.9	156	10.8%
Obese class 2: 35 - 39.9	53	3.7%
Obese class 3: >40	26	1.8%
Unrecorded	57	4.0%
Total	**1443**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	3	0.2%
2,000 - 2,499 g	28	1.9%
2,500 - 2,999 g	161	11.2%
3,000 - 3,499 g	524	36.3%
3,500 - 3,999 g	511	35.4%
4,000 - 4,449 g	184	12.8%
4,500 - 4,999 g	29	2.0%
>= 5,000 g	3	0.2%
Total	**1443**	

Labour Duration	Number	%
0 - 2 hrs	75	5.2%
2 - 4 hrs	90	6.2%
4 - 6 hrs	164	11.4%
6 - 8 hrs	186	12.9%
8 - 10 hrs	181	12.5%
10 - 12 hrs	152	10.5%
> 12 hrs	56	3.9%
Unrecorded	539	37.4%
Total	**1443**	

Group 2(b)

Pre labour caesarean section in single cephalic nulliparous pregnancies at greater than or equal to 37 weeks gestation 247/2696 (9.2%)

Maternal Request	105/2696	3.89%
Fetal reason	65/2696	2.41%
Maternal medical reason/pains	61/2696	2.26%
PET/Hypertension	11/2696	0.41%
Postdates	4/2696	0.15%
SROM	1/2696	0.04%

Comment: More detailed information is needed in pre-labour indications

Group 3 and 4

Total single cephalic multiparous pregnancies at greater than or equal to 37 weeks gestation (n=2370)

Spontaneous labour	Induced labour	Pre labour C/S
1259/2370 (53.1%)	1013/2370 (42.7%)	98/2370 (4.1%)

Caesarean section contribution according to onset of delivery of single cephalic multiparous pregnancies without a previous section at greater than or equal to 37 weeks' gestation 188/2370 (7.9%)

Spontaneous labour	14/2370	0.6%
Induced labour	76/2370	3.2%
Pre labour C/S	98/2370	4.1%

Group 3

Caesarean section rate of single cephalic multiparous pregnancies without a previous caesarean section at greater than or equal to 37 weeks gestation in spontaneous labour 14/1259 (1.1%)

Fetal reason (no oxytocin)	7/1259	0.6%
IUA - Inability to treat fetal intolerance	2/1259	0.2%
IUA - Inability to treat over contracting	0/1259	0.0%
IUA - Poor response	2/1259	0.2%
IUA - No oxytocin given	1/1259	0.1%
EUA - Persistent malposition	2/1259	0.2%
EUA - Cephalopelvic disproportion	0/1259	0.0%

Group 3
Single cephalic multiparous pregnancies without a previous caesarean section at greater than or equal to 37 weeks' gestation in spontaneous labour

Group 3	2023		2022	2021	2020	2017
ARM	47.0%	592/1259	50.9%	46.4%	51.8%	53.2%
Prostaglandin/Propess	0.0%	0/1259	0.0%	-	-	-
Oxytocin	3.6%	45/1259	4.6%	3.8%	3.6%	2.7%
Epidural	46.1%	581/1259	46.2%	37.9%	39.8%	34.1%
Electronic monitoring	78.2%	985/1259	78.0%	74.4%	77.6%	73.6%
Fetal blood sample	0.9%	11/1259	5.9%	0.8%	2.1%	3.2%
Vaginal operative delivery	3.6%	45/1259	3.5%	3.7%	3.3%	3.5%
Apgars <7 at 5 mins	0.2%	3/1259	1.4%	0.3%	1.5%	0.3%
Cord pH < 7.0	0.2%	2/1259	0.1%	-	0.0%	0.2%
Overall caesarean section	1.1%	14/1259	1.1%	1.4%	1.7%	1.3%
Caesarean section at VE=10	0.2%	3/1259	0.1%	0.2%	0.0%	0.3%
Admitted to Neonatal Unit	4.4%	56/1259	5.4%	4.7%	6.1%	8.8%
Episiotomy	8.6%	108/1259	8.0%	10.2%	8.1%	6.2%
OASIS*	1.6%	20/1259	0.7%	1.1%	1.0%	0.2%
Length of labour >12 hrs	0.6%	7/1259	0.5%	0.4%	1.2%	0.3%
Babies >=4.0kg	19.1%	241/1259	16.9%	20.1%	21.1%	23.9%
Aged >=35	54.4%	685/1259	53.2%	56.5%	59.9%	53.1%
BMI >=30	16.0%	202/1259	13.7%	11.9%	12.6%	10.7%
PPH >= 1000mls	3.2%	40/1259	2.0%	2.0%	1.2%	1.6%
HIE	0.1%	1/1259	0.1%	0.1%	0.0%	0.0%
Blood transfusion	0.4%	5/1259	0.4%	0.4%	0.7%	0.4%

Comment: *includes Episiotomy and Sphincter Damage (n=1)

Age Range	Number	%
<20	1	0.1%
20 - 24	46	3.7%
25 - 29	131	10.4%
30 - 34	396	31.5%
35 - 39	567	45.0%
>=40	118	9.4%
Unrecorded	0	0.0%
Total	**1259**	

Body Mass Index	Number	%
Underweight: <18.5	20	1.6%
Healthy: 18.5 - 24.9	719	57.1%
Overweight: 25 - 29.9	334	26.5%
Obese class 1: 30 - 34.9	111	8.8%
Obese class 2: 35 - 39.9	36	2.9%
Obese class 3: >40	7	0.6%
Unrecorded	32	2.5%
Total	**1259**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	0	0.0%
2,000 - 2,499 g	5	0.4%
2,500 - 2,999 g	83	6.6%
3,000 - 3,499 g	405	32.2%
3,500 - 3,999 g	524	41.6%
4,000 - 4,449 g	204	16.2%
4,500 - 4,999 g	36	2.9%
>= 5,000 g	1	0.1%
Unrecorded	1	0.1%
Total	**1259**	

Labour Duration	Number	%
0 - 2 hrs	604	48.0%
2 - 4 hrs	314	24.9%
4 - 6 hrs	151	12.0%
6 - 8 hrs	44	3.5%
8 - 10 hrs	19	1.5%
10 - 12 hrs	4	0.3%
> 12 hrs	7	0.6%
Unrecorded	116	9.2%
Total	**1259**	

Group 3 and 4 (as the denominator)
Single cephalic multiparous pregnancies section at greater than or equal to 37 weeks' gestation. Indications for induction of labour 1013/2370 (42.7%)

Fetal	374/2370	15.8%
Maternal	272/2370	11.5%
SROM not in labour	134/2370	5.7%
Postdates (>40 and less than 42 weeks)	101/2370	4.3%
Maternal Request	68/2370	2.9%
PET/Hypertension	38/2370	1.6%
Postterm (>= 42 weeks)	26/2370	1.1%
Total	1013/2370	42.7%

Comment: **includes Episiotomy and Sphincter Damage (n=1)*

Group 4(a)

Caesarean section rates according to indication for induction in single cephalic multiparous pregnancies without a previous caesarean section at greater than or equal to 37 weeks' gestation 76/1013 (7.5%)

	Fetal reason (no oxytocin)		IUA - Inability to treat fetal intolerance		IUA - Inability to treat over contracting		IUA - Poor response		IUA - No oxytocin given		EUA - Cephalopelvic disproportion		EUA - Persistent malposition	
Fetal 29/374 (7.8%)	9/374	2.4%	7/374	1.9%	2/374	0.5%	8/374	2.1%	1/374	0.3%	2/374	0.5%	0/374	0.0%
Maternal 20/272 (7.4%)	5/272	1.8%	3/272	1.1%	3/272	1.1%	7/272	2.6%	1/272	0.4%	0/272	0.0%	1/272	0.4%
SROM not in labour 7/134 (5.2%)	2/134	1.5%	1/134	0.7%	1/134	0.7%	1/134	0.7%	0/134	0.0%	0/134	0.0%	2/134	1.5%
Postdates (>40 and less than 42 weeks) 7/101 (6.9%)	6/101	5.9%	0/101	0.0%	0/101	0.0%	0/101	0.0%	0/101	0.0%	0/101	0.0%	1/101	1.0%
Maternal Request 2/68 (2.9%)	1/68	1.5%	1/68	1.5%	0/68	0.0%	0/68	0.0%	0/68	0.0%	0/68	0.0%	0/68	0.0%
PET/ Hypertension 8/38 (21.1%)	1/38	2.6%	4/38	10.5%	0/38	0.0%	2/38	5.3%	0/38	0.0%	0/38	0.0%	1/38	2.6%
Postterm (>= 42 weeks) 3/26 (11.5%)	1/26	3.8%	2/26	7.7%	0/26	0.0%	0/26	0.0%	0/26	0.0%	0/26	0.0%	0/26	0.0%
Total 76/1013 (7.5%)	**25/1013**	**2.5%**	**18/1013**	**1.8%**	**6/1013**	**0.6%**	**18/1013**	**1.8%**	**2/1013**	**0.2%**	**2/1013**	**0.2%**	**5/1013**	**0.5%**

Group 4(a) Outcomes

Group 4(a)	2023		2022	2021	2020	2017
ARM	78.2%	792/1013	78.4%	65.7%	77.1%	75.6%
Prostaglandin/Propess	43.5%	441/1013	41.9%	36.8%	N/A	45.8%
Oxytocin	57.8%	586/1013	55.7%	44.3%	49.1%	32.5%
Epidural	71.0%	719/1013	72.8%	57.7%	60.7%	52.0%
Electronic monitoring	98.1%	994/1013	98.0%	87.0%	98.7%	92.5%
Fetal blood sample	1.5%	15/1013	6.5%	2.4%	5.7%	8.0%
Vaginal operative delivery	5.8%	59/1013	5.3%	6.6%	5.8%	5.5%
Apgars <7 at 5 mins	0.2%	2/1013	0.9%	0.5%	0.7%	0.7%
Cord pH < 7.0	0.1%	1/1013	0.4%	-	0.0%	0.5%
Overall caesarean section	7.5%	76/1013	6.6%	5.0%	5.1%	4.8%
Caesarean section at VE=10	0.8%	8/1013	0.4%	0.3%	0.2%	0.4%
Admitted to Neonatal Unit	10.0%	101/1013	9.8%	9.4%	11.1%	16.7%
Episiotomy	9.4%	95/1013	10.5%	12.5%	10.3%	7.9%
*OASIS	0.8%	8/1013	0.5%	0.6%	0.6%	0.5%
Length of labour >12 hrs	1.0%	10/1013	1.2%	0.7%	1.3%	0.6%
Babies >=4.0kg	19.4%	197/1013	19.9%	25.7%	25.1%	25.6%
Aged >=35	62.6%	634/1013	58.3%	62.6%	64.4%	53.4%
BMI >=30	28.1%	285/1013	23.5%	20.0%	22.2%	14.6%
PPH >= 1000mls	5.5%	56/1013	4.5%	2.5%	2.1%	2.7%
HIE	0.0%	0/1013	0.0%	0.0%	0.0%	0.1%
Blood transfusion	1.0%	10/1013	1.0%	0.3%	0.6%	1.1%

includes Episiotomy and Sphincter Damage (n=0) /* **Comment: *increase in oxytocin over the years.*

Age Range	Number	%
<20	0	0.0%
20 - 24	20	2.0%
25 - 29	84	8.3%
30 - 34	275	27.1%
35 - 39	446	44.0%
>=40	188	18.6%
Unrecorded	0	0.0%
Total	**1013**	

Body Mass Index	Number	%
Underweight: <18.5	14	1.4%
Healthy: 18.5 - 24.9	428	42.3%
Overweight: 25 - 29.9	304	30.0%
Obese class 1: 30 - 34.9	129	12.7%
Obese class 2: 35 - 39.9	53	5.2%
Obese class 3: >40	17	1.7%
Unrecorded	68	6.7%
Total	**1013**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	1	0.1%
2,000 - 2,499 g	16	1.6%
2,500 - 2,999 g	106	10.5%
3,000 - 3,499 g	303	29.9%
3,500 - 3,999 g	390	38.5%
4,000 - 4,449 g	163	16.1%
4,500 - 4,999 g	32	3.2%
>= 5,000 g	2	0.2%
Total	**1013**	

Labour Duration	Number	%
0 - 2 hrs	270	26.7%
2 - 4 hrs	255	25.2%
4 - 6 hrs	182	18.0%
6 - 8 hrs	103	10.2%
8 - 10 hrs	54	5.3%
10 - 12 hrs	26	2.6%
> 12 hrs	10	1.0%
Unrecorded	113	11.2%
Total	**1013**	

Group 4(b)

Pre labour caesarean section in single cephalic multiparous pregnancies at greater than or equal to 37 weeks without a previous caesarean section 98/2370 (4.1%)

Maternal medical reason/pains	37/2370	1.6%
Fetal reason	32/2370	1.4%
Maternal Request	27/2370	1.1%
SROM	1/2370	0.0%
PET/Hypertension	1/2370	0.0%
Postdates	0/2370	0.0%

Group 5

Single cephalic multiparous pregnancies (with at least one previous caesarean section) at greater than or equal to 37 weeks' gestation (n=964)

Spontaneous labour	Induced labour	Pre labour C/S
138/964 (14.3%)	45/964 (4.7%)	781/964 (81%)

Caesarean Section contribution according to onset of delivery in single cephalic multiparous pregnancies with at least one previous section at greater than or equal to 37 weeks' gestation: (825/964) (85.6%)

Spontaneous labour	26/964	2.7%
Induced labour	18/964	1.9%
Pre labour C/S	781/964	81.0%

Group 5 All

Group 5 Overall	2023		2022	2021	2020	2017
ARM	9.5%	92/964	10.3%	10.5%	15.6%	31.7%
Prostaglandin/Propess	0.1%	1/964	0.1%	0.0%	0.0%	0.0%
Oxytocin	2.2%	21/964	2.1%	2.6%	3.4%	2.1%
Epidural	13.1%	126/964	13.3%	14.1%	16.5%	17.8%
Electronic monitoring	33.4%	322/964	35.8%	36.4%	46.0%	31.5%
Fetal blood sample	0.2%	2/964	24.9%	0.1%	0.3%	1.6%
Vaginal operative delivery	4.0%	39/964	3.6%	4.3%	5.3%	5.8%
Apgars <7 at 5 mins	0.4%	4/964	1.3%	0.2%	1.1%	0.8%
Cord pH < 7.0	0.2%	2/964	0.3%	-	0.0%	0.3%
Overall caesarean section	85.6%	825/964	85.0%	82.4%	80.9%	75.9%
Caesarean section at VE=10	0.2%	2/964	0.1%	0.2%	0.4%	0.4%
Admitted to Neonatal Unit	8.1%	78/964	9.0%	8.8%	11.3%	13.6%
Episiotomy	5.5%	53/964	5.3%	6.7%	9.0%	9.0%
OASIS	0.3%	3/964	0.4%	0.5%	0.3%	0.5%
Length of labour >12 hrs	0.1%	1/964	0.1%	0.2%	0.2%	0.9%
Babies >=4.0kg	14.4%	139/964	18.2%	16.9%	19.5%	19.9%
Aged >=35	66.3%	639/964	64.4%	66.6%	67.5%	66.0%
BMI >=30	31.0%	299/964	22.8%	26.7%	21.2%	20.3%
PPH >= 1000mls	3.6%	35/964	4.3%	2.7%	2.2%	2.3%
HIE	0.0%	0/964	0.0%	0.0%	0.0%	0.0%
Blood transfusion	0.5%	5/964	1.0%	0.9%	4.2%	2.0%

Age Range	Number	%
<20	1	0.1%
20 - 24	14	1.5%
25 - 29	58	6.0%
30 - 34	252	26.1%
35 - 39	461	47.8%
>=40	178	18.5%
Unrecorded	0	0.0%
Total	**964**	

Body Mass Index	Number	%
Underweight: <18.5	7	0.7%
Healthy: 18.5 - 24.9	411	42.6%
Overweight: 25 - 29.9	265	27.5%
Obese class 1: 30 - 34.9	124	12.9%
Obese class 2: 35 - 39.9	62	6.4%
Obese class 3: >40	13	1.3%
Unrecorded	82	8.5%
Total	**964**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	0	0.0%
2,000 - 2,499 g	12	1.2%
2,500 - 2,999 g	92	9.5%
3,000 - 3,499 g	358	37.1%
3,500 - 3,999 g	363	37.7%
4,000 - 4,449 g	119	12.3%
4,500 - 4,999 g	20	2.1%
>= 5,000 g	0	0.0%
Total	**964**	

Labour Duration	Number	%
0 - 2 hrs	54	5.6%
2 - 4 hrs	26	2.7%
4 - 6 hrs	25	2.6%
6 - 8 hrs	15	1.6%
8 - 10 hrs	9	0.9%
10 - 12 hrs	3	0.3%
> 12 hrs	1	0.1%
Unrecorded	831	86.2%
Total	**964**	

Group 5(a)

Caesarean section rate of single cephalic pregnancies with only one previous caesarean section, at greater than or equal to 37 weeks gestation in spontaneous labour 23/135 (17.0%)*

Fetal reason (no oxytocin)	9/135	6.7%
IUA - Inability to treat fetal intolerance	0/135	0.0%
IUA - Inability to treat over contracting	1/135	0.7%
IUA - Poor response	0/135	0.0%
IUA - No oxytocin given	10/135	7.4%
EUA - Persistent malposition	3/135	2.2%
EUA - Cephalopelvic disproportion	0/135	0.0%

** Does not include 3 pregnancies that had more than one previous caesarean section.*

Group 5a Spontaneous Labour Outcomes

	2023		2022	2021	2020	2017
ARM	39.9%	55/138	43.9%	39.0%	49.7%	48.4%
Prostaglandin/Propess	0.0%	0/138	0.0%	-	0.5%	0.0%
Oxytocin	2.9%	4/138	2.6%	4.8%	2.7%	3.9%
Epidural	58.7%	81/138	61.9%	55.1%	56.2%	51.2%
Electronic monitoring	89.1%	123/138	90.3%	82.4%	91.9%	94.5%
Fetal blood sample	1.4%	2/138	8.4%	0.5%	0.5%	5.1%
Vaginal operative delivery	23.9%	33/138	20.0%	19.8%	22.7%	18.8%
Apgars <7 at 5 mins	0.0%	0/138	0.6%	0.0%	0.5%	2.3%
Cord pH < 7.0	0.0%	0/138	0.6%	-	0.0%	0.4%
Overall caesarean section	18.8%	26/138	21.9%	18.2%	18.9%	21.1%
Caesarean section at VE=10	1.4%	2/138	0.6%	1.1%	2.2%	1.2%
Admitted to Neonatal Unit	5.8%	8/138	7.7%	10.7%	9.7%	17.6%
Episiotomy	34.1%	47/138	30.3%	33.7%	38.9%	29.3%
OASIS	0.7%	1/138	2.6%	-	1.6%	2.0%
Length of labour > 12 hrs	0.7%	1/138	0.6%	0.5%	0.5%	1.6%
Babies >= 4.0kg	14.5%	20/138	17.4%	15.0%	18.9%	21.9%
Aged >= 35	55.8%	77/138	54.2%	61.0%	60.5%	57.4%
BMI >= 30	19.6%	27/138	20.0%	14.4%	16.8%	16.0%
PPH >= 1000mls	4.3%	6/138	8.4%	3.7%	3.8%	5.5%
HIE	0.0%	0/138	0.0%	0.0%	0.0%	0.0%
Blood transfusion	0.7%	1/138	3.2%	1.6%	2.7%	4.3%

Age Range	Number	%
< 20	0	0.0%
20 - 24	3	2.2%
25 - 29	8	5.8%
30 - 34	50	36.2%
35 - 39	61	44.2%
>= 40	16	11.6%
Unrecorded	0	0.0%
Total	**138**	

Body Mass Index	Number	%
Underweight: <18.5	2	1.4%
Healthy: 18.5 - 24.9	76	55.1%
Overweight: 25 - 29.9	34	24.6%
Obese class 1: 30 - 34.9	12	8.7%
Obese class 2: 35 - 39.9	8	5.8%
Obese class 3: >40	0	0.0%
Unrecorded	6	4.3%
Total	**138**	

Birthweight Range	Number	%
500 - 999 g	0	0.0%
1000 - 1499 g	0	0.0%
1,500 - 1,999 g	0	0.0%
2,000 - 2,499 g	0	0.0%
2,500 - 2,999 g	7	5.1%
3,000 - 3,499 g	64	46.4%
3,500 - 3,999 g	47	34.1%
4,000 - 4,449 g	18	13.0%
4,500 - 4,999 g	2	1.4%
>= 5,000 g	0	0.0%
Total	**138**	

Labour Duration	Number	%
0 - 2 hrs	44	31.9%
2 - 4 hrs	22	15.9%
4 - 6 hrs	19	13.8%
6 - 8 hrs	11	8.0%
8 - 10 hrs	8	5.8%
10 - 12 hrs	2	1.4%
> 12 hrs	1	0.7%
Unrecorded	31	22.5%
Total	**138**	

Group 5(b)

Single cephalic multiparous pregnancies with only one previous caesarean section at greater than or equal to 37 weeks gestation.

Indications for induction of labour 45/964 (4.7%)

Maternal	21/964	2.2%
Postdates (>40 and less than 42 weeks)	7/964	0.7%
SROM not in labour	7/964	0.7%
Fetal	6/964	0.6%
Maternal Request	2/964	0.2%
PET/Hypertension	1/964	0.1%
Postterm (>= 42 weeks)	1/964	0.1%

Group 5(b)

Caesarean section rates according to indication for induction in single cephalic multiparous pregnancies with a previous caesarean section at greater than or equal to 37 weeks' gestation 18/45 (40.0%).

	Fetal reason (no oxytocin)		IUA - Inability to treat fetal intolerance		IUA - Inability to treat over contracting		IUA - Poor response		IUA - No oxytocin given		EUA - Cephalopelvic disproportion		EUA - Persistent malposition	
Maternal 6/21 (28.6%)	1/21	4.8%	0/21	0.0%	2/21	9.5%	1/21	4.8%	2/21	9.5%	0/21	0.0%	0/21	0.0%
Postdates (>40 and less than 42 weeks) 4/7 (57.1%)	2/7	28.6%	0/7	0.0%	0/7	0.0%	1/7	14.3%	1/7	14.3%	0/7	0.0%	0/7	0.0%
SROM not in labour 3/7 (42.9%)	1/7	14.3%	0/7	0.0%	0/7	0.0%	1/7	14.3%	1/7	14.3%	0/7	0.0%	0/7	0.0%
Fetal 3/6 (50%)	1/6	16.7%	0/6	0.0%	1/6	16.7%	0/6	0.0%	1/6	16.7%	0/6	0.0%	0/6	0.0%
Maternal Request 1/2 (50%)	0/2	0.0%	0/2	0.0%	0/2	0.0%	0/2	0.0%	1/2	50.0%	0/2	0.0%	0/2	0.0%
PET/ Hypertension 0/1 (0%)	0/1	0.0%	0/1	0.0%	0/1	0.0%	0/1	0.0%	0/1	0.0%	0/1	0.0%	0/1	0.0%
Postterm (>= 42 weeks) 1/1 (100%)	0/1	0.0%	0/1	0.0%	0/1	0.0%	1/1	100.0%	0/1	0.0%	0/1	0.0%	0/1	0.0%
Total 18/45 (40%)	**5/45**	**11.1%**	**0/45**	**0.0%**	**3/45**	**6.7%**	**4/45**	**8.9%**	**6/45**	**13.3%**	**0/45**	**0.0%**	**0/45**	**0.0%**

Group 5(c)

Pre labour caesarean sections in single cephalic multiparous pregnancies (with at least one previous section at greater than or equal to 37 weeks gestation), 781/964 (81%).

76.1% (594/781) of the pre labour caesarean section group had only one previous caesarean section.

23.9% (187/781) of the pre labour caesarean sections had two or more caesarean sections prior to the index pregnancy.

88.9% (528/594) of the pre labour caesarean section group with only one previous caesarean section had a repeat procedure with no specific medical or obstetric reason recorded.

11.1% (66/594) of the pre labour caesarean section group with only one previous caesarean section had a repeat procedure for a specific medical or obstetric reason recorded.

The overall caesarean section rate in all single cephalic multiparous pregnancies with only one previous caesarean section was 81.7% (635/777), [(23+18+594) / (964-187)]

Pre labour caesarean sections in single cephalic multiparous pregnancies with only one previous caesarean section at greater than or equal to 37 weeks gestation (n=594).

Maternal medical reason/pains	21/594	3.5%
Maternal Request	1/594	0.2%
Fetal reason	28/594	4.7%
PET/Hypertension	6/594	1.0%
SROM	11/594	1.9%
Postdates	0/594	0.0%
Previous caesarean section	527/594	88.7%

Repeat pre labour caesarean section in single cephalic multiparous pregnancies, with only one previous caesarean section, for a specific medical, obstetrical, or maternal reason by gestation in completed weeks (n=67)

GA (weeks)	Total
37	25
38	16
39	13
40	10
41	3
Totals	**67**

Repeat pre labour caesarean section in single cephalic multiparous pregnancies, with only one previous caesarean section and no specific medical, obstetrical, or maternal reason, other than one previous caesarean section by gestation in completed weeks (n=527)

GA (weeks)	Total
37	22
38	160
39	268
40	52
41	24
42	1
Totals	**527**

Comment: *Deliveries at 39 weeks or less should have another indication recorded apart from one previous C-Section.*

Group 6
All nulliparous pregnancies with a breech presentation (n=158)

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	17	13	17/158 (10.8%)	13/158 (8.2%)
Induced labour	11	3	11/158 (7%)	3/158 (1.9%)
Pre labour c-section	130	130	130/158 (82.3%)	130/158 (82.3%)
Totals	**158**	**146**		**146/158 (92.4%)**

Group 7
All multiparous pregnancies with a breech presentation (including pregnancies with previous caesarean sections) (n=96)

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	14	7	14/96 (14.6%)	7/96 (7.3%)
Induced labour	7	2	7/96 (7.3%)	2/96 (2.1%)
Pre labour c-section	75	75	75/96 (78.1%)	75/96 (78.1%)
Totals	**96**	**84**		**84/96 (87.5%)**

Group 8
All multiple pregnancies including pregnancies with previous caesarean sections (n=107)

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	13	2	13/107 (12.1%)	2/107 (1.9%)
Induced labour	19	2	19/107 (17.8%)	2/107 (1.9%)
Pre labour c-section	75	75	75/107 (70.1%)	75/107 (70.1%)
Totals	**107**	**79**		**79/107 (73.8%)**

Group 9
All pregnancies with abnormal lies (including previous caesarean section) (n=37)

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	1	1	1/37 (2.7%)	1/37 (2.7%)
Induced labour	2	2	2/37 (5.4%)	2/37 (5.4%)
Pre labour c-section	34	34	34/37 (91.9%)	34/37 (91.9%)
Totals	**37**	**37**		**37/37 (100%)**

Group 10
Total single cephalic pregnancies at less than or equal to 36 weeks gestation (including pregnancies with previous caesarean sections) (n=336)

	Number in group	Number of C/S	Contribution to total population	% C/S
Spontaneous labour	131	13	131/336 (39%)	13/336 (3.9%)
Induced labour	63	19	63/336 (18.8%)	19/336 (5.7%)
Pre labour c-section	142	142	142/336 (42.3%)	142/336 (42.3%)
Totals	**336**	**174**		**174/336 (51.8%)**

Group 10 by Onset and Gestation

GA (weeks)	Spontaneous labour	Induced labour	Pre labour C-section	Total
21	0	0	0	0
22	0	0	0	0
23	1	1	1	3
24	2	1	2	5
25	3	5	4	12
26	4	0	5	9
27	2	0	5	7
28	1	0	4	5
29	4	1	4	9
30	1	1	3	5
31	3	0	11	14
32	10	1	10	21
33	6	0	14	20
34	9	0	16	25
35	31	7	20	58
36	54	46	43	143
Total	**131**	**63**	**142**	**336**

All deliveries equal to or less than 36 weeks gestational age by onset and gestation

GA (weeks)	Spontaneous labour	Induced labour	Pre labour C-section	Total
21	0	0	0	0
22	0	0	0	0
23	3	2	1	6
24	3	2	2	7
25	6	7	5	18
26	4	0	7	11
27	3	0	8	11
28	1	0	8	9
29	4	2	5	11
30	1	1	5	7
31	4	0	16	20
32	11	1	20	32
33	8	1	25	34
34	14	0	26	40
35	35	8	29	72
36	60	51	70	181
Total	**157**	**75**	**227**	**459**

Incidence of preterm delivery <37 weeks = 459/6764 (6.8%)
Incidence of preterm delivery <=34 weeks = 206/6764 (3%)
Incidence of preterm delivery <34 weeks = 166/6764 (2.5%)
Incidence of preterm spontaneous labour <37 weeks = 157/6764 (2.3%)
Incidence of preterm spontaneous labour <=34 weeks = 62/6764 (0.9%)
Incidence of preterm spontaneous labour <34 weeks = 48/6764 (0.7%)

Age Range by Group

	Group 1		Group 2a		Group 3		Group 4a		Group 5 Overall		Group 5a	
<20	20	2.0%	17	1.2%	1	0.1%	0	0.0%	1	0.1%	0	0.0%
20 - 24	75	7.5%	103	7.1%	46	3.7%	20	2.0%	14	1.5%	3	2.2%
25 - 29	183	18.2%	221	15.3%	131	10.4%	84	8.3%	58	6.0%	8	5.8%
30 -34	476	47.3%	614	42.6%	396	31.5%	275	27.1%	252	26.1%	50	36.2%
35 - 39	226	22.5%	388	26.9%	567	45.0%	446	44.0%	461	47.8%	61	44.2%
>=40	26	2.6%	100	6.9%	118	9.4%	188	18.6%	178	18.5%	16	11.6%
Total	**1006**		**1443**		**1259**		**1013**		**964**		**138**	

Body Mass Index Range by Group

	Group 1		Group 2a		Group 3		Group 4a		Group 5 Overall		Group 5a	
< 18.5	17	1.7%	15	1.0%	20	1.6%	14	1.4%	7	0.7%	2	1.4%
18.5-24.9	621	61.7%	717	49.7%	719	57.1%	428	42.3%	411	42.6%	76	55.1%
25-29.9	241	24.0%	419	29.0%	334	26.5%	304	30.0%	265	27.5%	34	24.6%
30-34.9	68	6.8%	156	10.8%	111	8.8%	129	12.7%	124	12.9%	12	8.7%
35-39.9	22	2.2%	53	3.7%	36	2.9%	53	5.2%	62	6.4%	8	5.8%
>=40	8	0.8%	26	1.8%	7	0.6%	17	1.7%	13	1.3%	0	0.0%
Unrecorded	29	2.9%	57	4.0%	32	2.5%	68	6.7%	82	8.5%	6	4.3%
Total	**1006**		**1443**		**1259**		**1013**		**964**		**138**	

Birthweight Range by Group

	Group 1		Group 2a		Group 3		Group 4a		Group 5 Overall		Group 5a	
500 - 999 g	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
1,000 - 1,499 g	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	0	0.0%
1,500 - 1,999 g	0	0.0%	3	0.2%	0	0.0%	1	0.1%	0	0.0%	0	0.0%
2,000 - 2,499 g	7	0.7%	28	1.9%	5	0.4%	16	1.6%	12	1.2%	0	0.0%
2,500 - 2,999 g	127	12.6%	161	11.2%	83	6.6%	106	10.5%	92	9.5%	7	5.1%
3,000 - 3,499 g	416	41.4%	524	36.3%	405	32.2%	303	29.9%	358	37.1%	64	46.4%
3,500 - 3,999 g	372	37.0%	511	35.4%	524	41.6%	390	38.5%	363	37.7%	47	34.1%
4,000 - 4,499 g	77	7.7%	184	12.8%	204	16.2%	163	16.1%	119	12.3%	18	13.0%
4,500 - 4,999 g	7	0.7%	29	2.0%	36	2.9%	32	3.2%	20	2.1%	2	1.4%
>= 5,000 g	0	0.0%	3	0.2%	1	0.1%	2	0.2%	0	0.0%	0	0.0%
Unrecorded	0	0.0%	0	0.0%	1	0.1%	0	0.0%	0	0.0%	0	0.0%
Total	**1006**		**1443**		**1259**		**1013**		**964**		**138**	

Labour Duration Range by Group

	Group 1		Group 2a		Group 3		Group 4a		Group 5 Overall		Group 5a	
0 - 2hrs	102	10.1%	75	5.2%	604	48.0%	270	26.7%	54	5.6%	44	31.9%
2 - 4hrs	150	14.9%	90	6.2%	314	24.9%	255	25.2%	26	2.7%	22	15.9%
4 - 6hrs	202	20.1%	164	11.4%	151	12.0%	182	18.0%	25	2.6%	19	13.8%
6 - 8hrs	205	20.4%	186	12.9%	44	3.5%	103	10.2%	15	1.6%	11	8.0%
8 - 10hrs	124	12.3%	181	12.5%	19	1.5%	54	5.3%	9	0.9%	8	5.8%
10 - 12hrs	65	6.5%	152	10.5%	4	0.3%	26	2.6%	3	0.3%	2	1.4%
>12hrs	28	2.8%	56	3.9%	7	0.6%	10	1.0%	1	0.1%	1	0.7%
Not Recorded	130	12.9%	539	37.4%	116	9.2%	113	11.2%	831	86.2%	31	22.5%
Total	**1006**		**1443**		**1259**		**1013**		**964**		**138**	

Episiotomy Rate by Group

Group 1	Group 2a	Group 3	Group 4a	Group 5 Overall	Group 5a
501/1006	574/1443	108/1259	95/1013	53/964	47/138
49.8%	39.8%	8.6%	9.4%	5.5%	34.1%

Perinatal Deaths per Robson Ten Group

Group	No. of Antepartum Still births	Per '000 births	No. of Intrapartum Stillbirths	Per '000 births	No. of Early Neonatal Deaths	Per '000 births	Total No. of Perinatal Deaths*	Per '000 births
Groups 1 & 2	2/2697	0.7	0/2697	0.0	0/2697	0.0	2/2697	0.7
Groups 3 & 4	1/2372	0.4	0/2372	0.0	0/2372	0.0	1/2372	0.4
Group 5	0/964	0.0	0/964	0.0	0/964	0.0	0/964	0.0
Group 8	2/219	9.1	0/219	0.0	3/219	13.7	5/219	22.8
Groups 6, 7, 9 & 10	5/628	8.0	0/628	0.0	5/628	8.0	10/628	15.9
Total	**10/6880**	**1.5**	**0/6880**	**0.0**	**8/6880**	**1.2**	**18/6880**	**2.6**

*excludes Congenital Anomaly (n=24)

HIE Cases per Robson Ten Group

Group	No. of HIE Cases	Per '000 births	No. of Infants Cooled	Per '000 births
Groups 1 & 2	3/2697	1.1	3/2697	1.1
Groups 3 & 4	1/2372	0.4	1/2372	0.4
Group 5	0/964	0.0	0/964	0.0
Group 8	0/219	0.0	0/219	0.0
Groups 6, 7, 9 & 10	0/628	0.0	0/628	0.0
Total	**4/6880**	**0.6**	**4/6880**	**0.6**

Ten groups by Estimated Blood Loss >= 1000mls and >= 1500mls

	EBL >= 1000mls	Total in Group	Rate
Group 1	71	1006	7.1%
Group 2	131	1690	7.8%
Group 2a	117	1443	8.1%
Group 2b	14	247	5.7%
Group 3	40	1259	3.2%
Group 4	64	1111	5.8%
Group 4a	56	1013	5.5%
Group 4b	8	98	8.2%
Group 5 all	35	964	3.6%
Group 5a	6	138	4.3%
Group 6	11	158	7.0%
Group 7	6	96	6.3%
Group 8	12	107	11.2%
Group 9	7	37	18.9%
Group 10	27	336	8.0%
Total	**404**	**6764**	**6.0%**

	EBL >= 1500mls	Total in Group	Rate
Group 1	24	1006	2.4%
Group 2	38	1690	2.2%
Group 2a	32	1443	2.2%
Group 2b	6	247	2.4%
Group 3	18	1259	1.4%
Group 4	14	1111	1.3%
Group 4a	14	1013	1.4%
Group 4b	0	98	0.0%
Group 5 all	10	964	1.0%
Group 5a	1	138	0.7%
Group 6	6	158	3.8%
Group 7	2	96	2.1%
Group 8	3	107	2.8%
Group 9	5	37	13.5%
Group 10	10	336	3.0%
Total	**130**	**6764**	**1.9%**

Transfusion Rates per Robson Ten Group

Group	1	2a	2b	3	4a	4b	5a	5b	5c	6	7	8	9	10	Total
Total in Group	**1006**	**1443**	**247**	**1259**	**1013**	**98**	**138**	**45**	**781**	**158**	**96**	**107**	**37**	**336**	**6764**
Number Transfused	25	31	2	5	10	1	1	0	4	1	2	6	3	11	102
% Transfused	**2.5%**	**2.1%**	**0.8%**	**0.4%**	**1.0%**	**1.0%**	**0.7%**	**0.0%**	**0.5%**	**0.6%**	**2.1%**	**5.6%**	**8.1%**	**3.3%**	**1.5%**
Units crossmatched	**78**	**79**	**4**	**17**	**36**	**4**	**1**	**0**	**10**	**20**	**6**	**19**	**16**	**81**	**371**
Units Transfused	41	47	2	5	14	3	1	0	6	6	2	9	3	16	155
Patients transfused 4 or more units	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% Patients transfused 4 or more units (group)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
% Patients transfused who received 4 or more units	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	1.0%

Transfusion Rates per Robson Ten Group where EBL >= 1000mls

Group	1	2a	2b	3	4a	4b	5a	5b	5c	6	7	8	9	10	Total
EBL >= 1000 mls	**71**	**117**	**14**	**40**	**56**	**8**	**6**	**3**	**26**	**11**	**6**	**12**	**7**	**27**	**404**
Number Transfused	19	20	2	3	8	0	0	0	3	1	2	3	3	6	70
% Transfused	**26.8%**	**17.1%**	**14.3%**	**7.5%**	**14.3%**	**0.0%**	**0.0%**	**0.0%**	**11.5%**	**9.1%**	**33.3%**	**25.0%**	**42.9%**	**22.2%**	**17.3%**
Units crossmatched	**64**	**64**	**4**	**5**	**32**	**0**	**0**	**0**	**9**	**20**	**6**	**12**	**16**	**60**	**292**
Units Transfused	32	34	2	3	12	0	0	0	5	6	2	6	3	10	115
Patients transfused 4 or more units	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% Patients transfused 4 or more units (group)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	0.2%
% Patients transfused who received 4 or more units	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	1.4%

Transfusion Rates per Robson Ten Group where EBL >= 1500mls

Group	1	2a	2b	3	4a	4b	5a	5b	5c	6	7	8	9	10	Total
EBL >= 1500 mls	**24**	**32**	**6**	**18**	**14**	**0**	**1**	**1**	**8**	**6**	**2**	**3**	**5**	**10**	**130**
Number Transfused	10	10	1	2	6	0	0	0	3	1	1	1	3	4	42
% Transfused	**41.7%**	**31.3%**	**16.7%**	**11.1%**	**42.9%**	**0.0%**	**0.0%**	**0.0%**	**37.5%**	**16.7%**	**50.0%**	**33.3%**	**60.0%**	**40.0%**	**32.3%**
Units crossmatched	**40**	**48**	**2**	**4**	**24**	**0**	**0**	**0**	**9**	**20**	**5**	**6**	**16**	**54**	**228**
Units Transfused	17	22	1	2	9	0	0	0	5	6	1	3	3	7	76
Patients transfused 4 or more units	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
% Patients transfused 4 or more units (group)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.8%
% Patients transfused who received 4 or more units	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	2.4%

Joanna Lynch and Frankie Sheridan with their new born baby twins Cian and Cadhla. Image: Grazina Photography, Trim.

Severe Maternal Morbidity

Sophie Lacey, Staff Midwife in the Antenatal Unit with Christine Pardy.

In keeping with changes to reporting of information, vignettes will no longer be included in this chapter.

Maternal Mortality

There was one maternal death in 2023 (>42 days postnatal, <1 year postnatal). This was a postnatal woman who died from disseminated carcinoma. Our thoughts are with her family.

Severe Maternal Morbidity (SMM)

Data is compiled from a number of sources including the High Dependency Unit record, Pathology Department, Placenta Accreta Group, Haematology Team, Maternal Medicine Clinic, Microbiology Department as well as a check on referrals to St Vincents' University Hospital ICU and Radiology Departments to see if there were any ICU admissions or interventional radiology cases. In early 2024, data from 2023 will be presented at a hospital wide conference in order to share learning points for future care and confirm completion of data. I wish to acknowledge the work of Dr Helena Bartels, Dr Eoghan Mooney, Dr Paul Downey, Dr Susan Knowles, Ms AnnMarie Murphy Cruse, Ms Celine O'Brien. Ms Caroline Brophy and Ms Fionnuala Byrne in compiling and confirming the validity of this information.

The NMH reports all SMM to the National Perinatal Epidemiology Centre for inclusion in a National SMM report. In addition, in 2023 the NMH participated in a national audit on Eclampsia. Mary Higgins is the Institute of Obstetricians and Gynaecologists representative on the NPEC SMM Advisory Group.

Themes to highlight this year are the number of women who experienced a pulmonary embolism either during or after pregnancy (n=5) and the continuing high rate of ICU admissions, showing the complexity of care provided.

Prof Mary Higgins, Consultant Obstetrician & Gynaecologist.

Morbidity 2023	
Major Obstetric Haemorrhage	14
Uterine Rupture	1
Peripartum Hysterectomy	3
Eclampsia	1
Renal / Liver Dysfunction	5
Pulmonary Oedema	0
Acute Respiratory Dysfunction	0
Pulmonary Embolism	5
Cardiac Arrest	1
Coma	0
Cerebral Vascular Accident	0
Status Epilepticus	0
Septic Shock	1
Anaesthetic Problems	0
ICU/CCU admission	7
Interventional Radiology	3
Total	**36 women**

** Data from January 1st 2023 to December 31st 2023; some women had more than one SMM*

Maternal Medicine Service

Some members of the Maternal Medicine Service.

There is a weekly multidisciplinary clinic for women with medical disorders led by Prof. Fionnuala McAuliffe, Prof Mary Higgins, Dr Siobhan Corcoran, and clinic midwives Ms Celine O'Brien, Ms Annabel Murphy, Ms Valerie Seymour and Ms AnnMarie Cruse (haematology midwife). Ms. Victoire Hurley, drug liaison nurse, advises on women with drug addiction. There is a monthly combined obstetric – anaesthetic review of patients at the clinic with Consultant Anaesthesiologists Dr Roger McMorrow, Dr Nikki Higgins and their team. Pharmacy provides advice on the safety of maternal medications during pregnancy and breastfeeding with weekly attendance from Benedetta Soldati. Clinical Dietetics with Dr Sarah Louise Killeen, joined our clinic during the year to see women with inflammatory bowel disease and those requiring dietetics (included patients with severe hyperemesis, bariatric surgery and high BMI).

SPECIALIST SERVICES

Rheumatology: in 2017 we established a monthly Reproductive Rheumatology Health Service the ROSE clinic. Prof Doug Veale, Dr Aine Gorman (SpR) and Ms Louise Moore attend and women are seen for pre-pregnancy counselling and for pregnancy management. Outputs from the clinic have formed the basis for Dr Kieran Murray's PhD and two clinical research papers from this clinic were published in 2019 and 2020. Our unique care pathway has been presented at national and international meetings and has formed the basis of a national HSE guideline 'Management of rheumatic diseases in the preconception, antenatal and postnatal periods' which was launched in 2023.

Hepatology: Prof Aiden McCormick and Prof Omar El-Sherif attend on a monthly basis for a joint hepatology clinic.

Gasteroenterology: In 2018 we established a joint gastroenterology obstetric service. Dr Juliette Sheridan and her team attend bi-monthly where we jointly manage women with inflammatory bowel disease.

Clinical genetics: Dr Samantha Doyle and her team provide a service of our patients who may be have a genetic disorder for counselling and genetic testing as appropriate, and where requested.

Epilepsy: There is a fortnightly clinic to review pregnant women with epilepsy run by Ms. Sinead Murphy, specialist epilepsy midwife funded by Brainwave. Each woman is seen at least three times during the antenatal period and receive a postnatal telemedicine check. All women receive written information regarding their medication, and are invited to a newly established 'women with epilepsy' (WWE) private facebook group.

Cardiology: Dr Carla Canniffe provides a service for women with cardiology problems, before, during and after pregnancy to NMH and St Vincent's University Hospital since 2021. She reviews patients at a monthly joint obstetric clinic at NMH and weekly at SVUH in a dedicated woman's cardiology clinic. We have established a National Maternal Cardiac Database with NPEC, and are grateful to Dr Aoibhinn Smyth for assisting with setting up the database and data entry. Results from our service were presented at national meetings in 2023.

> **“A TOTAL OF 450 WOMEN BOOKED INTO THESE CLINICS AND 4,050 WOMEN HAD APPOINTMENTS WITH A COMBINATION OF CONSULTANT AND MIDWIFERY-LED CARE. THE ACTIVITY LEVELS HAVE INCREASED YEAR ON YEAR WITH A 11% INCREASE ON LAST YEAR ON WOMEN ATTENDING SATELLITE CLINICS”.**

Renal medicine
Dr John Holian commenced a bi-monthly joint obstetric renal clinic in 2021 to review women with renal disease.

Obstetric Haematology Service comprises Consultant Haematologists Dr Karen Murphy, Dr Gerry Connaughan, Dr Maryse Power and Dr Joan Fitzgerald, a 0.5 WTE Haematology Registrar and the haematology midwife Ms AnnMarie Cruse. There is a weekly Haematology clinic shared with Maternal Medicine colleagues which provides for women with thrombotic and bleeding problems. This blended team ensures provision of high quality care for this complex group of patients during pregnancy.

In addition to the numbers in the table below, there were approximately 2,500 visits in our service led by AnnMarie Cruse; this comprises a weekly iron deficiency anemia clinic, reviewing women with family history of venous thromboembolism, women with thrombocytopenia, family history of haemoglobulinopathy, and VTE risk assessment. She also collaborates with other services including the National Coagulation centre.

Maternal Medicine Midwife clinic.
In 2023 Celine O'Brien had 203 visits through the maternal medicine midwife clinic which is a service for women in conjunction with the maternal medicine clinic to review women with stable medical conditions. This gives women access to midwifery care.

The weekly **maternal medicine MDT meeting** (organised by Dr Gillian Corbett and Dr Jillian Mitchell and Ms Celine O'Brien) continues to be very successful facilitating the development of multidisciplinary individualised patient plans.In 2023 there were **559 new patients** seen in the maternal medical service. Some patients presented with more than one problem. The main diagnoses and indications for referral to the clinic in 2023 are recorded below (*only one diagnosis per patient*).

In our **pre-pregnancy service** we saw **41** women and their partners / family members in 2023, in addition to the numbers below. This service is becoming increasingly popular for women with medical disorders, and we often counsel women and their partners together with the relevant physician. Our collaboration with Merrion Fertility Clinic with pre-pregnancy counselling has strengthened, and our joint fertility – maternal medicine service receives referrals from many fertility clinics throughout Ireland.

Professor Fionnuala McAuliffe, Consultant Obstetrician & Gynaecologist.

Haematology	Medical Reason	194
	Previous venous thrombo-embolism	43
	VTE current pregnancy	11
	Anti-phospholipid syndrome	12
	Factor V Leiden mutation	16
	Protein S deficiency	2
	Anti thrombin deficiency	1
	Von Willebrand's Disease	10
	Factor VII deficiency	2
	Factor VIII deficiency	4
	Factor IX deficiency	1
	Factor XII deficiency	1
	Family history of haemophilia	1
	Immune thrombocytopenic purpura	16
	Neutropenia	4
	Essential Thrombocytosis	5
	MTHFR homozygous	1
	VTE risk assessments in clinic	40
	Severe anaemia	4
	Bleeding disorder of unknown aetiology	6
	Glanzmann's hereditary spherocytosis	1
	Spherocytosis	4
	Splenic vein thrombosis	1
	May Turner syndrome	1
	Hypofibrinogenemia	1
	PAI-1 deficiency	2
	Myeloproliferative disorder	1
	Blood refusal	3

Infection (excluding COVID-19)		5
	HIV	2
	Hepatitis B	1
	Hepatitis C	1
	CMV in pregnancy	1

Drug dependency (no hepatitis C)		7
	Methadone in pregnancy	5
	Cocaine in pregnancy	2

Cardiac		48
	ASD repaired	2
	VSD repaired	1
	VSD + pulmonary stenosis	1
	Mitral valve prolapse	1
	Pulmonary valve stenosis	1
	Mitral valve regurgitation	1
	Bicuspid aortic valve	4
	Repaired PFO	1
	PFO not repaired	2
	PDA closed	2
	Long QT syndrome	3
	SVT	9
	PVCs	1
	Polymorphic VT in pregnancy	1
	SVT in pregnancy	1
	Atrial fibrillation pre pregnancy	3
	Wolf Parkinson White	4
	Pre-pregnancy myocarditis	1
	Pacemaker in situ	1
	Prior postpartum cardiomyopathy	1
	Peripartum cardiomyopathy this pregnancy	1
	Cardiomyopathy HOCM	3
	Dilated cardiomyopathy	1
	HOCM + ICD insitu	1
	POTS	1

GIT		55
	Ulcerative colitis	17
	Crohn's disease	24
	Bariatric surgery	13
	Chronic Pancreatitis	1

Liver		11
	Liver adenoma	1
	Autoimmune hepatitis in pregnancy	1
	Autoimmune hepatitis and cirrhosis	3
	Primary Biliary cirrhosis	1
	Prior acute fatty liver in pregnancy	2
	Liver transplant	3

CNS		99
	Epilepsy	72
	Multiple sclerosis	12
	Pre-pregnancy craniopharyngioma	1
	Pre-pregnancy vertebral artery dissection	1
	Idiopathic intracranial hypertension	1
	VP shunt for hydrocephalus	1
	Cauda equina syndrome	1
	Myasthenia Gravis	1
	Myotonic dystrophy	3
	Spinal cord stimulator in situ	1
	T10 transection	1
	Transverse myelitis	1
	Cavernoma	1
	CVST	2

Vascular		30
	Essential hypertension	13
	Large scalp AVM	1
	Splenic artery aneurysm	2
	Cavernous haemangiona	1
	CVA pre-pregnancy	13

Connective tissue disorders		50
	Rheumatoid Arthritis	11
	Juvenile rheumatoid arthritis	3
	Osteoarthritis	1
	SLE	7
	CREST	1
	Sjögren's disease	5
	Seronegative arthritis	1
	Ankylosing Spondylitis	4
	Psoriatic Arthritis	9
	Neurofibromatosis type 1	2
	Undifferentiated & mixed Connective Tissue Disease	1
	Demyelinating polyradiculoneuropathy	1
	Anti Ro antibody positive only	1
	Extracranial reversible cerebral vasoconstriction syndrome	1
	Granulomatosis with polyangitis	1
	Ehlers Danlos syndrome	1

Respiratory		10
	Cystic fibrosis	3
	Pre-pregnancy pneumothorax	1
	Severe asthma	3
	Sarcoidosis	2

Renal		12
	Renal transplant	1
	Chronic kidney disease stage 2	5
	Chronic kidney disease stage 3	1
	IgA nephropathy	1
	T1DM + nephropathy	1
	Nephrotic syndrome	1
	Glomerulonephritis	1
	Nephrostomy tube for hydronephrosis in pregnancy	1

Oncology		15
	Thyroid cancer pre-pregnancy	1
	Endometrial cancer pre pregnancy	1
	Breast cancer pre-pregnancy	11
	Hodgkins pre-pregnancy	1
	Melanoma pre-pregnancy	1

Oncology		15
	Thyroid cancer pre-pregnancy	1
	Endometrial cancer pre pregnancy	1
	Breast cancer pre-pregnancy	11
	Hodgkins pre-pregnancy	1
	Melanoma pre-pregnancy	1

Endocrine		7
	Total thyroidectomy	1
	Secondary adrenal insufficiency	1
	Pituitary macroadenoma	1
	Adrenal tumour	2
	Graves disease	2

Miscellaneous		16
	Bipolar disorder	1
	Vogt Koyanagi Harada (choroidal inflammation, retinal detachment)	1
	Dermatomyositis	1
	Autoimmune dermatitis	1
	Hidradenitis suppuritiva	1
	Pemphigus vulgaris	1
	Autonomic dysfunction	1
	BMI 65	1
	Carney complex	1
	CVID	1
	Kippel Feil syndrome	1
	Kippel Trenaunay syndrome	1
	Merrf syndrome	1
	Osteochromatosis	1
	Poland syndrome	1
	Cerebral palsy	1

Overall Total	559

Maternity Outpatient Clinic

Dr Gerry Agnew, Consultant Obstetrician & Gynaecologist and Laura Boyd, Staff Midwife with Maria O'Brien and Robert Brambrzck in the Fitzwilliam Clinic.

The public Holles Clinic and semi-private Fitzwilliam Maternity Clinic continue to provide a comprehensive service to the women attending The National Maternity Hospital, offering most women a model of Combined Care during their pregnancy in conjunction with their own GP.

Holles Outpatient Clinic

The Midwifery, Obstetric, Administrative and Support Saff continue to provide client-centered care while also striving to improve the services offered through consultation and innovation. Holles Clinic has implemented a number of initiatives which are aimed at improving the overall experience for women attending the clinics.

Working closely with our administrative colleagues, we undertook the task of improving our waiting times for all women attending the clinics. This was a collaborative endeavour, supported by Senior Management and the Executive Management Team. Through "Time in Motion" studies, patient surveys and group collaboration, we were able to make significant changes to improve the patient experience and create a more effective working balance for the team in the Antenatal Clinic.

2023 also saw the welcome return of partners to the clinic following the COVID-19 pandemic. There were over 20,000 new and follow up attendances at the clinic with an additional 1,170 virtual appointments which gives women the opportunity to complete part of their booking visit from home, ahead of their first appointment. The virtual histories are completed by the midwives from the Hub using Telehealth technology for a fully interactive experience. The virtual and telephone histories enabled approximately 50% of women to have completed their booking history in advance of their first appointment. This new development has helped to reduce waiting times in clinics and improve the patient experience.

With the objective of improving the patient experience, we continue to identify the appropriate pathways of care for the women through the Supported, Assisted and Specialist Models of Care. The current Midwifery-led clinics account for 13% of the appointments which is part of our Supportive Care pathway model of care. To meet the demand, there is at least one Midwifery clinic running every day.

Our successful Daisy Clinic, under the guidance of Anna Lyons, CMM1, continues to provide individualised care to our younger parents, building strong relationships and helping to guide them through their pregnancy with the assistance of the Multidisciplinary team. This clinic is facilitated by Dr Orla Sheil in collaboration with the Dietetic, Medical Social Work and Education Teams.

The TLC Clinic continues to provide an invaluable service to women requiring additional practical and psychological support in their 1st trimester following recurrent miscarriages. This clinic is led by Valerie Seymour, CMM2 under the guidance of Prof Cathy Allen and in partnership with the NMH Bereavement Team. The clinic has supported over 250 couples with demand continuing to grow.

Our postnatal 'Poppy Clinic' offers quality and continuity of care to patients who experience complications during the pregnancy and in the postnatal period. There are 3 clinics per week in total with 2 led by Caroline Brophy, Assisted Midwife Practitioner and 1 by Dr Laoise O'Brien, Consultant Obstetrician & Gynaecologist. Referrals are from within the Hospital, GPs, PHNs and other maternity hospitals. Further information can be found in The Postnatal Poppy Clinic section.

With increasing numbers of women with complex histories attending the hospital, the variety of specialist clinics offered continues to grow. Specialist clinics include Maternal Medicine, Haematology, Pre-Term Birth, Endocrine, Diabetes and the Pain Management clinic. Joint clinics between the Obstetric team and Consultants from St Vincent's University Hospital are offered including Cardiology, Neurology, Rheumatology, Respiratory, Hepatology and Gastroenterology. As part of the multidisciplinary approach offered by the Hospital, the departments of Medical Social Work, Dietetics, Mental Health and Physiotherapy, work collaboratively to meet the needs of the increasing number of mothers with complex medical, mental health and social issues. Our close working relationship with the Medical Social Work Department, allows for a comprehensive service being made available to many women who face extraordinary challenges. Access to the support of a Drug Liaison Midwife also provides invaluable support for some of our most vulnerable clients. Celine O'Brien, Clinical Midwife Specialist works alongside the Maternal Medicine obstetric team to offer patients access to midwifery-led care while also meeting their complex medical needs. As part of the assisted care pathways, we have dedicated midwifery-led clinics offering patients midwifery-led care and support, in conjunction with their medical teams.

Fitzwilliam Maternity Clinic

Located at the Merrion Square entrance of the Hospital, the Fitzwilliam Maternity Clinic (semi-private package) offers antenatal Consultant-led care. There were almost 8,000 new and follow up attendances at the clinic during the year. With an initial midwifery booking clinic and a first trimester ultrasound scan, the follow-up consultant clinics are held in the afternoons. The semi-private package offers women a combined care scheme with antenatal visits alternating between the patients' GP and their clinic consultant. In 2023 we also welcomed back partners to our clinics. We continue to focus on patient satisfaction and ways to improve the patient experience.

Valerie Seymour, CMM2, Antenatal Outpatient Clinic Services.

"WITH INCREASING NUMBERS OF WOMEN WITH COMPLEX HISTORIES ATTENDING THE HOSPITAL, THE VARIETY OF SPECIALIST CLINICS OFFERED CONTINUES TO GROW. SPECIALIST CLINICS INCLUDE MATERNAL MEDICINE, HAEMATOLOGY, PRE-TERM BIRTH, ENDOCRINE, DIABETES AND THE PAIN MANAGEMENT CLINIC. JOINT CLINICS BETWEEN THE OBSTETRIC TEAM AND CONSULTANTS FROM ST VINCENT'S UNIVERSITY HOSPITAL ARE OFFERED INCLUDING CARDIOLOGY, NEUROLOGY, RHEUMATOLOGY, RESPIRATORY, HEPATOLOGY AND GASTROENTEROLOGY".

Summary of Obstetric Clinic Attendances (Virtual appointments = 1,170)

	Consultant led clinics	Midwives Clinics	Pearse St Clinics	Specialist Clinics*	Fitzwilliam Clinics	Total
(New) First Visits	3,173	333	183	999	2,782	7,470
Follow Up Visits	11,533	982	0	3,030	5,150	20,695
Total Attendances	**14,706**	**1,315**	**183**	**4,029**	**7,932**	**28,165**

**Specialist Clinics: Diabetes, Adolescent, Haematology, Postnatal Follow up, Pre-term birth, Endocrinology, Maternal Medicine. Does not include Community Midwifery, Nutrition, Satellite or Private Clinics*

Multiple Pregnancy

Cian and Cadhla Sheridan. Image: Grazina Photography Trim.

Total Mothers Delivered	6764	
Total Babies Born	6880	

Type	No. of Cases	No. of Births*
Twins	106	212
Triplets	5	15
Quads	0	0
Totals	**111**	**227**

*Babies born >=24 wks / >=500g

Perinatal Deaths	Number
Antepartum Deaths	2
Early Neonatal Deaths	3
Congenital Anomalies	4
Total	**9**

	Spontaneous Labour	Induction of Labour	Elective Caesarean Section	Total
Dichorionic Diamniotic	12	15	52	79
% Caesarean Section	1/12 (8.3%)	2/15 (13.3%)	52/52 (100%)	55/79 (69.6%)
Monochorionic Diamniotic	1	7	17	25
% Caesarean Section	1/1 (100%)	1/7 (14.3%)	17/17 (100%)	19/25 (76%)
Monochorionic Monoamniotic	0	0	2	2
% Caesarean Section	0/0 (0%)	0/0 (0%)	2/2 (100%)	2/2 (100%)
All Twins	**13**	**22**	**71**	**106**
% Caesarean Section	2/13 (15.4%)	3/22 (13.6%)	71/71 (100%)	76/106 (71.7%)

Multiple Pregnancies per '00 Deliveries	1.64	(n=111/6764)

Delivery Method of Perinatal Deaths	Number
Caesarean Sections	6
Spontaneous Vaginal	3
Total	**9**

Perinatal Deaths by Chorionicity*	Number	
Dichorionic Diamniotic	3	(n=158)
Perinatal mortality rate per '000 DCDA babies	19.0	
Monochorionic Diamniotic	6	(n=50)
Perinatal mortality rate per '000 MCDA babies	120.0	
Monochorionic Monoamniotic	0	(n=4)
Perinatal mortality rate per '000 MCMA babies	0.0	
*Babies born >=24 wks / >=500g		

Corrected perinatal rate per '000 twin births	42.5	(n=9/212)

Nulliparous Deliveries	53	(n=3084)
Incidence per '00 nullip dels	94.3	
Perinatal Deaths	5	
Caesarean Sections	4	
Neonatal Encephalopathy/HIE	0	
Multiparous Deliveries	53	(n=3680)
Incidence per '00 multip dels	75.5	
Perinatal Deaths	4	
Caesarean Sections	2	
Neonatal Encephalopathy/HIE	0	

5 Year Table: TWINS	2019	2020	2021	2022	2023
Number of Cases	125	134	149	126	106
Twin Babies	246	266	298	251	212
Incidence per '00 deliveries	1.6	1.9	2.2	1.9	1.6
Perinatal Deaths	7	5	11	4	9
Perinatal rate per '000 twin babies	28.5	18.8	36.9	15.9	42.5
Caesarean Section	80	100	100	97	76
Caesarean Section Rate	64%	75%	67%	77%	72%

Early Neonatal Deaths (3)

Case no	EGA	Birth Weight	Gender	Delivery Mode	Apgars (1, 5, 10 mins)	Age at Death (Days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
1	26+4	680	Female	Caesarean Section	4, 7	6	NMH NICU	Yes	No	MCDA. Low grade MVM.	TTTS	No
2	26+4	940	Female	Caesarean Section	4, 6	3	NMH NICU	Yes	No	MCDA. Low grade MVM.	TTTS	No
3	27+5	1150	Male	Caesarean Section	3, 4	7	NMH NICU	Yes	No	MCDA. Low grade MVM.	TTTS.	No

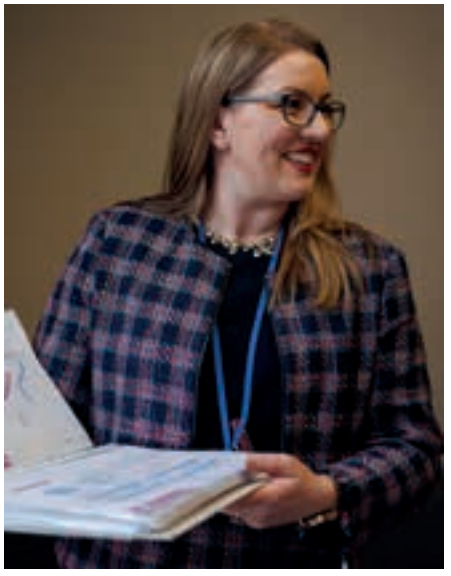
Antepartum Stillbirth (2)

Case no	EGA	Birth Weight	Gender	Delivery Mode	Apgars (1, 5, 10 mins)	Age at Death (Days)	Place of death	External Referral	IUGR	Placental Histology	Cause of death	PM
1	27+1	800	Female	Caesarean Section	0, 0	1	NMH DR	Yes	No	MCDA. Low grade MVM.	TTTS	No
2	38+1	250	Female	Spontaneous Vaginal	0, 0	1	NMH DR	No	n/a	MCDA.	TTTS.	No

Comment: All of these five deaths occurred in MCDA Twin pregnancies associated with severe TTTS. The corrected perinatal mortality rate for Twin pregnancies was 24/1000 for this year.
In cases 1 & 2, a caesarean section was carried out after 26 weeks' gestation. In case 3, Laser Ablation was carried out at 25 weeks and caesarean section was required after 27 weeks because of worsening hydrops in the recipient. In case 4, PPROM occurred at 27 weeks in association with severe TTTS. Laser Ablation of AV anastomoses was performed in two cases. In case 5, Laser Ablation was performed at 24 weeks and IUD occurred in twin 2 at 25 weeks.

Dr Stephen Carroll, Consultant Obstetrician & Gynaecologist.

Perinatal Genetics and Genomics



Dr. Sam Doyle

The Department of Perinatal Genetics and Genomics was established in August 2021 by Dr Sam Doyle and provides patient-centred care to people attending the service. The service uses genetic and genomic technologies to diagnose genetic conditions through collaboration with laboratory partners abroad.

> "IN 2023, THE PERINATAL GENETICS DEPARTMENT RECEIVED REFERRALS FROM ALL OVER THE COUNTRY. WOMEN ARE SEEN IN-PERSON AND VIRTUALLY, AND THE TEAM AIM TO PROVIDE A SERVICE THAT WORKS FOR PATIENTS. MORE THAN 670 PATIENTS WERE SEEN IN 2023".

Care is delivered in a holistic and integrated way. The Perinatal genetic and genomics team attend joint clinics with fetal medicine and provides multidisciplinary team (MDT) input into:

- Recurrent miscarriage specialist cases through an MDT, which happens every second week
- Fetal medicine MDTs, which occur weekly (the perinatal genetic and genomics team attend fetal medicine MDTs outside the Hospital also)
- Maternal Medicine MDTs when complex cases are being discussed
- Radiology discussions of cases likely to be genetic where close collaboration facilitates a diagnosis in some situations
- Pathology cases which are likely genetic and a collaborative approach allows for expedited testing.

The Perinatal Genetics and Genomics Service is for women who:

- Receive the news that their baby has abnormalities on the scan (Fetal Assessment Unit referral).
- Are at risk of their baby inheriting a genetic condition.
- Have a genetic condition and are attending the Maternal Medicine Clinic at The NMH.
- Lose a baby in pregnancy which may have been caused by a genetic condition
- Suffer recurrent pregnancy losses.
- Women with premature ovarian insufficiency attending The NMH Complex Menopause Clinic.
- Women attending the NMH Adolescent Gynaecology Clinic.In 2023, the Perinatal Genetics Department received referrals from all over the country. Women are seen in-person and virtually, and the team aim to provide a service that works for patients. More than 670 patients were seen in 2023.

Staffing

In 2023, additional funding was secured from the Royal College of Physicians to employ
an Aspire Fellow in Perinatal Genetics and Genomics. Dr Tara Rigney successfully applied for a second year in that position.

Ms Melissa Murphy was employed as an administrator in the department on a full-time basis. Ms Murphy is the first point of contact for the patients attending the service and brings a wealth of experience in administration to the role which has been important for the development of the service.

Ms Sinead Whyte joined the team in September 2023 as the Department's Principal Genetic Counsellor following a competitive interview process. She worked in a perinatal centre of excellence in the NHS and brings that experience to the department's development.

Research and Education

Dr Rigney is performing qualitative research on patient experiences accessing the service and receiving a genetic diagnosis during pregnancy. The Department continues to contribute to education within the Hospital, including laboratory teaching, neonatal teaching, fetal medicine, and recurrent miscarriage. In addition, Dr Doyle contributes to curricula at UCD and RCSI at all levels.

The department held the inaugural 'Study Day from Maternity Services' on Friday, October 27th, 2023. The EMT and the National Maternity Hospital Foundation supported this. Attendees came from across the country, and midwifery, obstetrics, neonatology, clinical genetics, pathology, social work, pharmacy, and radiology were represented. More than 100 attendees attended, and this event was free to attend.

The Department hosts regular virtual Journal clubs attended by Clinical genetics trainees around the Country (including Northern Ireland). In 2024, this will be expanded to include Genetic Counsellors and Fellows in Obstetric areas including Fetal Medicine and Fertility.

Future

The Department of Perinatal Genetics and Genomics continues to expand with the vision of developing an equitable service that provides timely access to clinical genetics for people planning families. We await the funding of the National Perinatal Genetics and Genomics Framework and the improved collaboration with colleagues nationwide that this funding will facilitate.

Dr Sam Doyle, Consultant Clinical and Biochemical Geneticist with a special interest in Perinatal Genomics.

Perineal Clinic

Dr Myra Fitzpatrick, Consultant Obstetrician & Gynaecologist, and Natasha Farron Mahon, Colposcopist.

The Perineal Clinic is a weekly clinic, providing care to women who have sustained an anal sphincter injury following vaginal delivery. It also assesses antenatal patients and provides advice regarding future mode of delivery. Other referrals include faecal incontinence of presumed obstetric origin and cases of pudendal neuropathy, resulting in pelvic floor dysfunction. Patients undergo a thorough assessment in terms of history and examination, with every patient having an endoanal ultrasound. If deemed necessary, patients will also undergo manometry and nerve conduction studies. This latter service is provided by Dr Conor O'Brien, Consultant Neurophysiologist.

The majority of our patients are postnatal and will have been previously assessed in the Postnatal 'Poppy' Clinic at 6 weeks postnatal if they have delivered in the NMH. Appointments for assessment in the Perineal Clinic are generally issued for 4 to 6 months postnatal, allowing time for recovery and strengthening of the anal sphincter. Persistence of symptoms of faecal incontinence at this stage and weak anal sphincter strength necessitate further intervention, which will always include physiotherapy. The importance of the physiotherapy services in managing these women cannot be overstated.

119 of the 159 new referrals seen were for assessment of an obstetric anal sphincter tear of varying grades (3a, 3b, 3c, 4th, recurrent). 78/119 (66%) occurred following spontaneous vaginal delivery, as opposed to instrumental delivery. Instrumental delivery was and remains a risk factor for such tears but the fact that the majority of tears seen in our clinic follow spontaneous delivery is noteworthy and something we need to keep track of. 63 of the 78 [81%] women did not have an episiotomy performed. Again, this is something that needs following. If such a finding were to become a trend, it needs to be addressed. The role of episiotomy in reducing the occurrence of Obstetric Anal Sphincter Injury (OASIS) is controversial but certainly an episiotomy is preferable to an OASIS.

In 2022 we resumed the practice of seeing antenatal patients with a previous OASIS injury. This visit allows for re-assessment and counselling regarding subsequent mode of delivery. We saw 23 new antenatal referrals in 2023 and recommended vaginal delivery in 14 [61%] and caesarean section for the remaining 9.

We remain the primary tertiary referral centre for OASIS assessment although there are other similar clinics in Cork, Galway and Rotunda. We are the only dedicated Perineal Clinic offering a comprehensive assessment which includes imaging of the sphincter and for this reason almost half of our referrals are from external sources. Of the 159 new attendances, 61 [38%] were from other units.

Reassuringly the vast majority of patients attending the Perineal Clinic for assessment are asymptomatic or have mild symptoms of faecal incontinence. This is a yearly finding and it is evidence that the quality of repairs being undertaken is good. This is reflected on endoanal ultrasound findings, which are generally good. We would encourage the practice of transferring patients to theatre for repair of OASIS, as it does lead to a better outcome, particularly in terms of repair of the IAS.

Dr Myra Fitzpatrick, Consultant Obstetrician Gynaecologist.

Linda Kelly, AMP Women's Health & Urodynamics.

	2017	2018	2019	2020	2021	2022	2023
Appointments offered	440	391	375	310	300	330	282
Attendances	343	301	282	241	256	235	237
New referrals	238 (69%)	213 (71%)	198 (70%)	175 (73%)	175 (68%)	187 (67%)	159 (67%)
Follow-ups	105 (31%)	88 (29%)	84 (30%)	66 (27%)	81 (32%)	74 (31%)	78 (33%)
Did Not Attend	97 (28%)	90 (23%)	93 (25%)	69 (22%)	44 (15%)	67 (28%)	45/282 (16%)

Indication for New Referrals [n=159]
3A – 47
3B – 49
3C – 10
4TH – 9
Recurrent OASIS – 4
Antenatal Assessment – 23
Faecal Incontinence – 12
Miscellaneous – 5
Source of New Referrals [n=159]
NMH - 98
Other units - 61 [38%]

Placenta Accreta Spectrum

Placenta Accreta Spectrum (PAS) refers to a range of clinical conditions characterised by abnormal placental adherence to the uterine wall. The incidence of PAS has increased substantially from 0.8 per 1,000 deliveries in the 1980s to 3 per 1,000 deliveries in the past decade, largely attributed to a rising global caesarean section rate. The condition is associated with significant maternal morbidity.

The PAS multidisciplinary team (MDT) service was established in The National Maternity Hospital in June 2017. This service provides care to patients of NMH and Rotunda and also accepts external referrals nationwide. To date, 72 women with PAS have been cared for by the MDT.

On average 3 cases are discussed at each MDT (range 2-5). In 2023, 9 women with PAS were cared for by the PAS MDT. This included 7 (78%) women who had a caesarean hysterectomy and two women who had uterine conservation procedures. Of these, 44% (n = 4) were external referrals. Table 1 provides a summary of these 9 cases managed within the MDT in 2023. The median (IQR) gestation at delivery was 34 weeks (23 – 35). Most women had an elective delivery (n = 6, 66%). The median (IQR) estimated blood loss (EBL) was 1700mls (705– 3350mls). A blood transfusion was required for 6 (66%) of women.

All women were offered input from allied healthcare professionals including social work, perinatal mental health, physiotherapy, and lactation support as well as information about the Placenta Accreta Ireland patient advocacy group.

Caesarean Scar Pregnancy

Caesarean scar pregnancy (CSP) is a precursor to severe PAS and both conditions exist as part of a common disease spectrum. The true incidence of CSP is unknown with reported rates in literature varying from 1:800 to 1:2656. Although relatively uncommon its incidence in increasing in line with increasing caesarean section rates.

In 2023, two women with CSP were managed within the PAS MDT. Both cases were diagnosed prior to 8 weeks gestation, and managed surgically, with one case requiring uterine balloon insertion.

Research

The PAS service is engaged in a diverse range of research projects, collaborating with colleagues both nationally and internationally. Since 2017, a prospective database of all women cared for by the PAS MDT has been maintained, alongside a biobank consisting of tissue and serum. Research published to date has focussed on multi-disciplinary team care, exploring the lived experience of women and their partners, and in 2023 new research explored women's and healthcare providers experience of anaesthesia care in PAS. Ongoing research is taking a mutli-omic translational approach to investigate the pathophysiology of PAS. The PAS team have been invited to present their work at several international conferences, including the Society for Maternal Fetal Medicine and the International Society for Placenta Accreta Spectrum.

Prof Donal Brennan, Consultant Obstetrician & Gynaecologist, Naomi Cooney, Co-Founder, Placenta Accreta Ireland, Dr Helena Bartels, Placenta Accreta Fellow, Dr Dónal O'Brien, Consultant Obstetrician & Gynaecologist, at the Placenta Accreta Fundraising Lunch 2023

Placenta Accreta Ireland

Placenta Accreta Ireland is a patient advocacy and support group founded in 2019. Placenta Accreta Ireland supports women and their families by focussing on four key areas - advocacy, support, information and education, and research. In 2023, they launched their website paireland.ie, as well as the third series of their podcast "Accreta&Me". Placenta Accreta Ireland supports women and their families both in Ireland and across the globe, while working in close collaboration with the National Maternity Hospital to provide evidence based and up to date resources about placenta accreta spectrum.

Prof Donal Brennan, Consultant Obstetrician & Gynaecologist.

Table 1. Overview of PAS procedures

Case	Elective/ Emergency	Procedure +/- IR	Anesthesia	Estimated Blood loss (ml)
1	Elective	Caesarean hysterectomy, ureteric stenting andaortic balloon insertion	GA	1900
2	Elective	Caesarean hysterectomy	GA	500
3	Emergency	Caesarean hysterectomy	GA	2000
4	Elective	Myometrial resection + Aortic balloon	GA	1700
5	Elective	Myometrial resection	GA	1050
6	Emergency	Caesarean hysterectomy + Aortic balloon	GA	500
7	Elective	Caesarean hysterectomy + Aortic balloon	GA	910
8	Elective	Caesarean hysterectomy + bladder repair	Regional/GA	4700
9	Emergency	Caesarean hysterectomy + Aortic balloon	GA	5000

Table 2: Caesarean Scar Pregnancy Overview

	Management	EBL ml	Outcome
1	ERPC under ultrasound guidance	400	Ultrasound at 3 months – no haematoma
2	ERPC under ultrasound guidance + Foley balloon insertion	900	Ultrasound at 3 months – no haematoma

The Poppy Clinic – Postnatal Maternal Morbidity Clinic

Dr Laoise O'Brien, Consultant Obstetrician & Gynaecologist with Sophie Sharpe and Dr Darren McMahon in a general outpatient clinic.

The Postnatal Maternal Morbidity Clinic (The Poppy Clinic) is led by Consultant Obstetrician Dr. Laoise O'Brien and Advanced Midwife Practitioner (AMP) Ms. Caroline Brophy.

The Poppy Clinic is a model of care unique to The National Maternity Hospital and was established in 2014. The clinic provides a service that bridges the gap in postnatal follow up for women who experience morbidity during the antenatal, intrapartum or postnatal periods. Nearly 800 new mothers attended the service last year with a DNA rate reduced to 8.1%. The service offers 3 clinics per week – a Consultant-led Clinic on Friday and AMP Clinic on Tuesday and Thursday.

The service continues to evolve with the introduction of new sub-specialist clinics during the year:

Postnatal Anaemia Surveillance Clinic (Hb < 8 g/dl): Postnatal mothers who are discharged from hospital with a Hb <8 g/dl return at 2 weeks postnatal for repeat Hb and assessment of wellness & recovery. Over 50 women attended in last year.

Away from Home: mothers who are outside the greater Dublin area who have given birth at the NMH. These neonates are in NMH NICU or a Children's Hospital – TSH, OLHSC with Mothers staying in hospital accommodation. They have limited or no access to their Public Health Nurse or GP. Thirty five mothers attended in 2023.

The Postnatal Clinic and ward rounds are supported with advice and guidance from Dr Susan Knowles, Consultant Microbiologist.

All referrals are triaged by a Consultant or Advanced Midwife Practitioner and timely appointments are arranged for the appropriate clinic.

Referral Source

NMH
- Midwives (Midwives, CMMs, CMWs CMSs, AMPs)
- Obstetricians (SHOs to Consultants)
- MDT –

Social work
- Perinatal Mental Health, Physio

Community
- PHN, GPs, Community physios.

External Hospital
- The Poppy clinic accepts referrals from all hospitals within the Ireland East Hospital group. Reason for referral include protracted perineal pain and hyper granulation tissue.

Self-referral: as the clinic is becoming more visible women are self-referring to the clinic.

The service has a close working relationship with members of the hospitals multidisciplinary teams and external support services
- NMH: Perinatal Mental Health, Consultant Microbiologist, Social Work, Physiotherapy, Perineal Clinic, Urogynaecology Service, Benign Gynae, Anaesthetics, Psychosexual Counsellor
- External: Public Health Nurses, Wound Clinic St Michaels Hospital, Radiology at St Vincent's Private Hospital & Colorectal Surgeon at St Michaels.

Education & Research

Education is a priority of the Poppy Service providing Healthcare professionals with the awareness and tools to offer timely and relevant care to this vulnerable group of new mothers.

Research and audit continue as the service evolves: pending studies include 'Hidden Haemorrhages' which is an audit of the Poppy's Postnatal Anaemia Surveillance Clinic and review of the A way From Home Clinic.

Caroline Brophy, Postnatal Maternal Morbidity AMP.

Dr Laoise O'Brien, Consultant Obstetrician & Gynaecologist.

Preterm Birth Clinic

The Preterm Birth Clinic provides dedicated and multidisciplinary antenatal care to women at high risk of spontaneous preterm birth. The clinic is staffed by Dr Siobhan Corcoran (Maternal & Fetal medicine), Ms Larissa Luethe (Midwife Specialist), Dr Gillian Corbett (Preterm Birth Research Fellow) with support from Dr Donal O'Brien.

This year we have expanded our role in preconceptual counselling and bereavement support for women and families affected by spontaneous preterm birth (sPTB) and mid-trimester loss (MTL). As evidence supporting the highly efficacious nature of Transabdominal Cerclage (TAC) continues to emerge, especially in those with recurrent sPTB, our numbers of Laparoscopic TACs have increased.

Obstetric Outcomes

In 2023, 135 women whom had their antenatal care in the Preterm Birth Clinic gave birth. 129 delivered a liveborn infant at The National Maternity Hospital. 6 woman had a mid-trimester loss <22+6 wks.

Sixteen women delivered in 2023 having had a McDonald or Shirodkar cerclage placed during her pregnancy. Four of these (25%) had MTL. 4 women were delivered in 2023 that had an abdominal cerclage in place. An additional 36 women came for preconceptual counselling in 2023, of which 9(25%) had a transabdominal cerclage.

Preterm Birth Advisory Council

In 2023 we established the Preterm Birth Advisory Council. This is a patient led group which helps to inform service improvements and research directions.

Dr Siobhan Corcoran,
Consultant Obstetrician & Gynaecologist.

The Preterm Birth Outpatient Clinic Team. Larissa Leuthe, Niamh Donnelan, Emma Hockey, Dr Gillian Corbett and Dr Siobhan Corcoran.

Total	**135**
Livebirths >23+0 wks gestational age	129 (94.8%)
Stillbirth > 23+0 wks gestational age	0
Midtrimester Losses 14-22+6 wks	6 (4.4%)
Gestational Age at Delivery of Livebirths - Range	23+6 – 42+0
Nullip	27 (20%)
Multip	108 (80%)
CS rate in livebirths	58/129 (45%)
Operative Vaginal Delivery	9/129 (7%)
Spontaneous Vaginal Delivery	62/129 (48.1)
Livebirths Delivery <34 weeks	9/129 (7%)
Livebirths Delivery 34+1-36+6 wks	11/129 (8.5%)
Livebirths Delivery 37+0-42/40 wks	109/129 (84.5%)

Women that delivered in 2023 with McDonald/Shirodkar Cerclage placed & removed in pregnancy	**16**
Mid trimester losses in this group	4 (25%)
Livebirths in this group	12 (75%)
Range of GA of Livebirths in this group	23+6 – 40+0
Women that delivered in 2023 with Abdominal Cerclage in situ	4
Mid trimester losses in this group	0
Livebirths in this group	4 (100%)
Range of GA of Livebirths in this group	36+0 – 39+0
Women that had a pre-pregnancy abdominal cerclage placed for PTB prevention in 2023	**9**
Arabin pessary	1
Midtrimester losses in this group	0
Livebirths in this group	1
PPROM in this group	1
Range of GA of Livebirths in this group	31+4

Shoulder Dystocia

(Including All Brachial Plexus Injuries and All Fractures in the Baby)

Definition: Shoulder dystocia is diagnosed at vaginal delivery when the anterior shoulder fails to deliver on the first attempt with routine axial traction. Included also are the deliveries that proceed to either internal manoeuvres or delivery of the posterior arm without an attempt at routine axial traction.

Shoulder Dystocia	Nullips	Multips	Total
No. of Cases	**21**	**21**	**42**
Incidence in Spontaneous and Operative vaginal deliveries	21/1889 1.1%	21/2432 0.9%	42/4321 1%
Spontaneous labour	3	12	15
Induction of labour	18	9	27
Spontaneous vaginal delivery	2	14	16
Operative vaginal delivery	19	7	26
Birthweight >= 4Kg	10	14	24

Single Cephalic Vaginal Deliveries Birthweight >= 4Kg	Nullips	Multips	Total
Spontaneous Vaginal	89	396	485
Operative Vaginal	91	39	130
C-Section	164	172	336
	344	607	951
Incidence in Single Cephalic Vaginal Deliveries Birthweight >= 4Kg	**10/180 5.6%**	**14/435 3.2%**	**24/615 3.9%**

Procedures to Assist Delivery of Shoulders	Nullips	Multips	Total
McRoberts	0	4	4
Suprapubic Pressure	0	0	0
McRoberts & Suprapubic Pressure	11	9	20
McRoberts & Suprapubic Pressure & Internal Rotation	1	1	2
McRoberts & Suprapubic Pressure & Delivery of Posterior Arm	3	3	6
McRoberts & Suprapubic Pressure & Internal Rotation & Delivery of Posterior Arm	1	0	1
McRoberts & Internal Rotation	1	1	2
McRoberts & Posterior Arm	4	1	5
McRoberts & Internal Rotation & Delivery of Posterior Arm	0	1	1
Internal Manoeuvre Only	0	0	0
Suprapubic Pressure & Delivery of Posterior Arm	0	1	1
Total	**21**	**21**	**42**

Position of Head at Delivery	Nullips	Multips	Total
ROT	11	11	22
LOT	10	10	20
Total	**21**	**21**	**42**

Maternal Complications	Nullips	Multips	Total
PPH >= 1000ml	2	1	3
Third or fourth degree tear	0	0	0

Neonate Complications	Nullips	Multips	Total
Apgars < 7 @ 5 mins	2	0	2
Encephalopathy	0	0	0
Brachial Plexus Injury	1	1	2
Right Clavicular Fracture	1	0	1

Comment:
The incidence of shoulder dystocia overall is 1.0% (1.1% in nulliparous women and 0.9% in multiparous women)..
The incidence of shoulder dystocia in babies delivered vaginally weighing ≥ 4.0kg is 3.9% (5.6% in nulliparous women and 3.2% in multiparous women).

All Brachial Plexus Injuries in the Baby

BPI	Nullips	Multips	Total
No. of Cases	**4**	**4**	**8**
Associated with Shoulder Dystocia	1	1	2
Incidence Per Overall Deliveries	**4/3084 0.1%**	**4/3680 0.1%**	**8/6764 0.1%**
Spontaneous labour	1	2	3
Induction of labour	3	2	5
Spontaneous vaginal delivery	1	2	3
Operative vaginal delivery	3	2	5
C-Section (post-instrumental)	0	0	0
Birthweight >= 4Kg	3	1	4
Incidence in Spontaneous and Operative vaginal deliveries	**4/1889 0.2%**	**4/2432 0.2%**	**8/4321 0.2%**
Incidence in Single Cephalic Vaginal Deliveries Birthweight >= 4Kg	**3/180 1.7%**	**1/435 0.2%**	**4/615 0.7%**
No. of Cases Resolved at 2 weeks	**3**	**1**	**4**
Associated with Shoulder Dystocia Resolved	1	0	1

All Fractures in the Baby

Fractures	Nullips	Multips	Total
No. of Cases	**3**	**2**	**5**
Associated with Shoulder Dystocia	1	0	1
Incidence Per Overall Deliveries	**3/3084 0.1%**	**2/3680 0.1%**	**5/6764 0.1%**
Spontaneous labour	1	1	2
Induction of labour	2	1	3
Spontaneous vaginal delivery	0	1	1
Operative vaginal delivery	2	1	3
C-Section (post-instrumental)	1	0	1
Birthweight >= 4Kg	1	0	1
Incidence in Spontaneous and Operative vaginal deliveries	**3/1889 0.2%**	**2/2432 0.1%**	**5/4321 0.1%**
Incidence in Single Cephalic Vaginal Deliveries Birthweight >= 4Kg	**1/180 0.6%**	**0/435 0.0%**	**1/615 0.2%**
Right humeral fracture	0	1	1
Left clavicular fracture	2	0	2
Right clavicular fracture	1	1	2

Comment:

Brachial plexus injuries (BPI) are reported as any case identified prior to discharge. Reporting systems for the presence of BPIs at or after 6 months are not always easy to identify to verify the continual presence of a BPI. The reporting of BPIs should be standardised as most of them resolve. Of the BPIs recorded in 2023 4 cases had resolved by 2 weeks.

Dr Michael Robson, Consultant Obstetrician & Gynaecologist.

Smoking Cessation Service

The Smoking Cessation Service began in 2020 when the HSE Tobacco Free Ireland Programme and the National Women and Infants Health Programme received funding from Sláintecare Integration Funding for a one-year pilot to deliver Smoke Free Start, dedicated onsite stop smoking service for pregnant and postnatal women. Due to the success of the project, the service was made permanent and is now in its 4rd year supporting women to cease smoking. The service was also extended to include all women attending gynaecology services and women with babies in the Neonatal Intensive Care Unit. Education is an important element of the role and this includes supporting student midwife education in collaboration with UCD.

Smoking is the most important preventable cause of adverse pregnancy, fetal and neonatal outcomes. For women who smoke, who are pregnant (or planning to become pregnant) and following childbirth, stopping smoking is the single most important thing they can do to protect their health and the health of their baby and families.[1]

Quitting smoking is difficult for everybody, and unfortunately, it is no easier for women trying to quit during pregnancy. The Smoking Cessation Midwife works collaboratively with women in developing and implementing a plan to quit smoking. Providing evidence-based support and nicotine replacement therapy increases the chance of successfully quitting by 4 times. The service aims to effectively support smoking cessation and improve pregnancy and birth outcomes, physical and psychological health and quality of life for women and their families and reduce health inequalities.

National Clinical Guidelines

On the 19th January 2022 the Department of Health launched new National Clinical Guidelines to Help People Stop Smoking. Importantly, pregnant women were identified as a priority group. These new guidelines describe an improved model of stop smoking care for women who are pregnant, which reflects the best available current evidence and for the first time recommends safe, effective behavioural and pharmacological supports that can be offered to women who want to quit smoking when pregnant.

Lisa Courtney, Smoking Cessation Midwife.

Breath Carbon Monoxide Testing

In line with these guidelines, Breath Carbon Monoxide (BCO) testing has been introduced at booking visits for all women in the maternity clinics with an implementation plan to introduce BCO testing across all areas in 2024.

Thanks to the hard work and dedication of the management and staff in the maternity outpatient clinics, the BCO testing has been effectively implemented and been well received by women attending the departments. There has been over a 30% increase in referrals to the service since the introduction of BCO testing. This ensures that women who smoke are being offered and referred to the appropriate services.

Staff Smoking Cessation Initiative

Last year the Smoking Cessation Service, supported by the Occupational Health Department, held a successful staff health promotion initiative to support staff to stop smoking. 180 staff completed the Smoking Cessation Service Quiz and over 100 people had their Breath Carbon Monoxide levels checked. 20 staff referrals were sent to the community HSE Quit supports. This year the service has taken on 6 staff members who are receiving continued support through phone calls, texts and face to face meetings with the smoking cessation Midwife. Three staff members are celebrating being 3-month smoke free this month.

Lisa Courtney,
Smoking Cessation Midwife CMM2.

1 *Chamberlain, C., et al. (2017) 'Psychosocial interventions for supporting women to stop smoking in pregnancy', Cochrane Database of Systematic Reviews, 2017(2), pp. 1-55.*

Termination of Pregnancy Service

The National Maternity Hospital was one of the first units nationally to provide termination of pregnancy (TOP) service after expansion of the service in 2019. The Hospital provides care under each of the four legal provisions for TOP care (<12 weeks, Maternal, Maternal Emergency and Fetal). Options for surgical and medical TOP care is given to all women <12 weeks and, gestation dependent, to those with maternal or fetal issues.

The majority of people attending for TOP care remain those less than 12 week's gestation (66%), followed by fetal indication (26%), maternal (2%) and in an emergency (1%). These rates have remained consistent over the five years that expanded TOP care has been provided in the hospital

For the first year since the start of the service here, medical termination of pregnancy was more common. Over two thirds (65%; including the majority of Section 9 and 10 indications) were medical TOP (MTOP) and the remainder (35%) underwent a surgical TOP. There is no obvious reason for this difference in 2023, and people who attend <12 weeks have the choice of both options and therefore may have been more likely to choose a MTOP.

For both, extensive multidisciplinary input is required to provide safe, respectful, compassionate care to the women and their families. Teams involved include Obstetrics, Maternal Fetal Medicine, Midwifery, Nursing, Anaesthesiology, Bereavement, Chaplaincy and Perinatal Mental Health (Psychology and Psychiatry).

First trimester service: <12 week's gestation In 2023, as per previous years, most women had only one visit to clinic. Of these, some women chose to continue in their pregnancy following attendance in the clinic, often requiring many hours of discussion with clinic staff members. Some women attended who, on examination and ultrasound investigation, were over 12 week's gestation and unable to avail of a TOP under Section 12 of the act.

Women under the age of legal consent are also seen by the Medical Social Work Team; mandatory referrals have been made to Tusla. Some women have also required the input of the Sexual Assault Unit, the Gardai (if allegations of assault, or need for forensic examination of products of conception) or the Genito-urinary medicine teams (if positive for sexually transmitted infections).

Women attending for first trimester TOP are given the option between medical (MTOP) and surgical (STOP) based on woman's preference and medical need.

Many (over half of the clinic attenders) attended the NMH TOP clinic following "unsuccessful" community TOP – that is, that they had a persistent positive pregnancy test after the community TOP. Many these women had a positive pregnancy test due to retained products of conception and many underwent ERPC. A small minority had an ongoing pregnancy and attended the NMH for consideration of repeat TOP (usually choosing surgical).

TOP for Maternal Medical conditions
One women underwent TOP due to a maternal medical condition that met the criteria for the Act. Usually pregnant patients seeking a TOP under this Section are seen either in the Maternal Medicine or TOP clinic, and all were seen by consultants in Maternal Fetal Medicine. Planning for TOP due to maternal medical conditions involves the input of multiple specialities to provide safe and respectful care. We continue to be grateful to our General Medical and Speciality colleagues in St Vincent's University College for their input into the care of this complex group.

TOP for fetal abnormalities
Thirty-seven women underwent TOP in NMH in 2023 where Section 11 criteria were met. Please see the Fetal Medicine chapter for further details.

Ongoing research Mr Brendan Dempsey, working with us in the National Maternity Hospital/UCD Perinatal Centre, submitted and successfully defended this PhD thesis in December 2022 exploring the experience of healthcare providers following the expansion of the termination of pregnancy care. Brendan has published the following paper in 2023, with more to follow as he completes this research project.

Dempsey B, Connolly M, Higgins MF. "I suppose we've all been on a bit of a journey": a qualitative study on providers' lived experiences with liberalised abortion care in the Republic of Ireland. Sex Reprod Health Matters. 2023 Dec;31(1):2216526.

Prof Mary Higgins,
Consultant Obstetrician & Gynaecologist.

Fetal Medicine

Lisa Hyland, Sonographer scanning Maria Gilbert in The Fetal Medicine Department.

The National Maternity Hospital Fetal Medicine Department provides a comprehensive service for early pregnancy assessment, ultrasound scans throughout pregnancy, fetal medicine consultations, and gynaecology ultrasound examinations.

FETAL ASSESSMENT UNIT

In 2023 the Fetal Assessment Unit workload remained extremely busy with a total of 32,328 (33,181 in 2022) official NMH pregnancy ultrasound scans performed and recorded on the Viewpoint Ultrasound database. Included in the above are gynaecology scans; this does not include the additional gynaecology scans performed by the Consultant Radiology service in the Department.

The Unit provides a daily early pregnancy assessment service for patients referred with pain or bleeding in the first trimester, and a prior history of pregnancy loss.

All antenatal patients are offered a fetal anatomy scan at 20-22 weeks; a detailed patient information leaflet is provided for this assessment. In 2023, the first National Clinical Practice Guideline for The Fetal Anatomy Ultrasound was published by NWIHP and work is underway to implement its' recommendations, increasing the examination time and recording standard images within the limitations of such examinations.

Table 1 – Overview of the Sonographer-led Services in FAU

Fetal Assessment Unit: Midwife & Radiographer-led Services		Number of Ultrasound Scans
Early Pregnancy Assessment	Ultrasound Scans, serial HCG monitoring Virtual telemed appointments.	4,224
Obstetric Ultrasound Examinations	Reassurance scans in the first trimester for previous history, dating, fetal anatomy, growth and fetal wellbeing scans, Dopplers, placental location, fetal presentation and post-dates.	13,314
Fetal Medicine Midwives Clinic	Care of women with a diagnosis of a fetal abnormality/complex pregnancy, memory making, counselling, coordinating care for high-risk fetal medicine patients, follow-up post termination of pregnancy and supportive care in a subsequent pregnancy.	919
Gynaecology Ultrasound Examinations	Diagnostic workup for gynaecology outpatients & inpatients, recurrent miscarriage clinic patients, pre-conceptual counselling for high-risk obstetric patients, and patients with postnatal morbidity.	1,717
Total		**20,174**

The scheduled obstetric ultrasound workload including scans across all trimesters, in the postnatal period and for consultation with our fetal medicine midwives accounted for >16,000 ultrasound examinations in 2023 (see Table 1). In addition to scheduled workload, the Department takes pride in endeavouring to provide a same day scan service for in-patients admitted to antenatal, postnatal and gynaecology wards and those attending out-patients, satellite clinics and the emergency room where an ultrasound scan is required to plan treatment. This accounts for an average of 80 additional scans per week.

The outpatient gynaecology services at the NMH are expanding and consequently there is an increasing demand for ultrasound imaging. We are planning to develop and restructure this gynaecology ultrasound service to meet the protocols for seeing this patient group. During 2023, our sonographer-led service performed 1,717 of gynaecology scans.

As well as ultrasound scans, other services provided in the fetal assessment unit include CTG monitoring, phlebotomy, preparation, attendance and assistance at invasive procedures, patient counselling, departmental audits, clinical guideline development, bereavement counselling and liaising with ancillary services.

Our team includes midwife sonographers, radiographers, health care assistants, and administrative staff. Despite the busy workload and staffing challenges, we are very grateful to be able to provide an excellent ultrasound service in a timely manner with a strong patient-centred approach.

Teaching and education is an integral part of our work within the department for both midwifery and medical staff and students. The Fetal Medicine Unit continues to play an active role in teaching with both UCD and RSCI undergraduates in attendance. NCHDs are encouraged to attend for basic training by observing initially, followed by hands-on practical skills training. We contribute to the clinical and theoretical components of the MSc and Graduate Certificate Ultrasound Courses in association with UCD.

We sponsor one candidate on UCDs MSc Ultrasound Programme every year and Michelle Greene CMM1 is our 2023/2024 student sonographer. Lucy McShane Midwife and Lucy Collender Radiographer completed the early pregnancy graduate certificate and we supervised 12 other clinicians (NCHDs, Nurses, GPs, Radiographers) undertaking the early pregnancy and fetal biometry graduate certificates. Valerie Spillane CMM3 continues to provide teaching and training for the NMH Point-of-care Ultrasound Course for Midwives.

Valerie Spillane, CMM3 Antenatal Outpatient & Ultrasound Service.

FETAL MEDICINE

The Fetal Medicine Department provides care for those pregnancies at high risk for fetal complications. This includes diagnosis, counselling and management of pregnancies complicated by fetal abnormalities, disorders of intrauterine growth, and pregnancies affected by fetal infection or maternal antibodies. It also includes the screening and management of pregnancies at risk for fetal disorders due to a background history, such as prior pregnancy complications, or known or suspected genetic predispositions.

The service is provided by 7 sub-specialists in Maternal and Fetal Medicine and 3 Clinical Midwife Specialists in Fetal Medicine. There are 9 dedicated Fetal Medicine sessions attended by a fetal medicine specialist weekly; as a result, patients can be seen within 1-2 working days of referral as required and we are delighted to receive referrals from every obstetric department in the country. Our specialised fetal medicine midwives are a key part of the multidisciplinary team (MDT) involved in the patient pathway, and work in partnership with the fetal medicine consultants to co-ordinate care for the patients. They are often the direct contact provided to the patients with complex pregnancies where the fetus has a confirmed or suspected disorder. They are involved in pre and post assessment counselling, assist at fetal procedures, and are key co-ordinators of the patient pathway, particularly where liaison with bereavement and loss services or termination of pregnancy for fetal anomaly options are appropriate.

The services provided by the Fetal Medicine MDT in 2023 included:

- High risk Early Pregnancy Assessment
- Prenatal Screening
- Prenatal diagnosis including Amniocentesis, Chorion Villus Sampling, Cordocentesis
- Fetal echocardiography
- Paediatric Cardiology (Prof Colin McMahon and Cecelia Mulcahy CMS)
- Fetal MRI (Prof Gabrielle Colleran, Dr Ian Robinson and Dr Niamh Adams)
- Fetal Neurosurgery Service (Mr John Caird, Mr Darach Cummins and Ms Tafadzwa Mandiwanza)
- Antenatal Neonatology Consultations
- Perinatal Genetic and Genomics Service (Dr Samantha Doyle, Dr Tara Rigney, Ms Sinead Whyte)
- Fetal Therapy: Chest shunts / Fetal blood transfusion
- Rhesus Disease Management
- Management of Complicated Multiple pregnancy, including Laser ablation for TTTS
- Placental insufficiency assessment
- Assessment of Placenta Accreta Spectrum disorders
- Fetal Medicine Therapy for psychological support (Dr Clare Flahavan)

In total in 2023, there were 458 fetal medicine clinics, with 3,429 appointments attended; 780 new appointments and 2,649 returns. In addition, there were 251 specialised fetal medicine midwife's clinics where a further 941 scans were performed. There were also 127 Neonatology clinics, with 180 reviews, and 37 paediatric cardiology clinics, with 272 appointments.

The number of prenatal diagnostic procedures carried out was 147, with 54 CVS's and 93 amniocentesis performed.

The majority of prenatal diagnostic testing was carried out when there was an ultrasound suspicion of an abnormality. Table 2 outlines the indications for amniocentesis/ CVS over the past ten years and Table 3 outlines the various abnormalities detected by these procedures. In total 79 out of 191 (41%) of those undergoing diagnostic yielded abnormal results.

Table 4 outlines the ultrasound anomalies diagnosed using the RCOG/RCR classification for the last 10 years. There were a total of 345 abnormalities detected by ultrasound. In addition, there were 79 anomalies diagnosed on prenatal testing giving a total of 424 congenital abnormalities for the year. The majority of diagnoses within the hospital population are made by midwife sonographers/radiographers and are usually seen within 24 hrs by a fetal medicine consultant where appropriate. We continue to see an increase in the number of external referrals and if these are deemed urgent they can usually be seen within 24 – 48 hours. There is a daily high risk clinic which is staffed by a consultant in which these patients can be seen. Where appropriate genetic testing, surgical, neonatal and genetic counselling is arranged pre-delivery and the patient usually attends the fetal medicine unit for the remainder of the pregnancy.

2023 saw a further expansion of our dedicated neonatology consult service to a daily service for patients with fetal anomalies, allowing for same day fetal medicine and neonatology appointments. This has not only enhanced the service provided for the patients and their families, but also the communication between the MDT and the referring centres. Our Perinatal Genetics team with Dr Sam Doyle are an increasingly integral part of the fetal medicine MDT. They provide pre and post pregnancy counselling in cases of confirmed or suspected hereditary genetic disorders and develop future pregnancy testing pathways. This year a joint perinatal genetics and fetal medicine deep phenotyping clinic was established to allow for enhanced diagnostic abilities in our most rare fetal anomalies.

Our weekly Perinatal Meeting co-ordinated by our Fetal Medicine Subspecialty training fellow continues to be an excellent forum for MDT discussion of fetal and neonatal cases. This year a monthly Rhesus meeting was also established in collaboration with Dr Joan Fitzgerald, Consultant Haematologist, and our colleagues at the Irish Blood Transfusion Service, to discuss all cases of red cell or platelet antibodies with the potential to cause fetal or neonatal anaemia or thrombocytopenia.

DUBLIN FETAL THERAPY GROUP

(Prof Fionnuala McAuliffe and Dr Stephen Carroll)

Since 2010, the fetal therapy teams at the National Maternity Hospital, Dublin, and the Rotunda Hospital Dublin have collaborated jointly for the management of all cases of twin-to-twin transfusion syndrome referred to either centre. This has resulted in a single team approach to all such cases, regardless of which of the two hospital locations at which such patients are seen. During 2023, a total of 19 cases of severe twin-to-twin transfusion syndrome were managed by the Dublin Fetal Therapy Group by means of fetoscopic laser ablation of placental vessels. Amongst these 19 pregnancies, 6 resulted in survival of both fetuses, and 9 resulted in survival of one fetus. Overall survival is 21/38 (55%) and there was at least one survivor in 15/19 cases (79%).

By the end of 2023, the group had treated 328 fetuses with laser surgery for severe TTTS, with at least one survivor occurring in 78% of pregnancies (128/164). These results are consistent with the results at the major international centres providing this advanced fetal therapy. This approach to a complex but relatively rare fetal problem is an excellent example of a joint collaborative management strategy that successfully optimises care for these patients. The results from our national fetal therapy programme were published during 2022.

NATIONAL FETAL NEUROSURGERY PROGRAMME

(Prof Fionnuala McAuliffe, Dr Clare O'Connor)

This unique national service receives referrals from all maternity hospitals. There are weekly fetal neurosurgical clinics with Mr. Darach Crimmins, Mr John Caird, Ms Tafadzwa Mandiwanza, the Neurosurgery specialist nurses from Children's University Hospital, Temple St and Heather Hughes and Barbra Cathcart fetal medicine midwives. Cases are presented to a multidisciplinary team at our weekly perinatal meeting, with ultrasound and fetal MRI images presented and discussed. Following MDT the patients are seen and jointly counselled by the neurosurgery and fetal medicine teams. Women with pregnancies with fetal spina bifida are offered referral to Leuven Belgium to explore the option of fetal NTD repair, where appropriate.

Mr Crimmins, Mr Caird and Ms Tafadzwa request that all fetal cases in Ireland being referred to Leuven, Belgium for consideration for fetal spina bifida repair be referred to this clinic to facilitate the postnatal care.

Dr Gabrielle Colleran, Dr Niamh Adams and Dr Ian Robinson review the fetal MRI images and provide an excellent service.

In 2023 32 individual cases were seen and assessed at the clinic, though a number of other cases were discussed at the fetal neurosurgery multidisciplinary rounds, without the patient being seen in clinic. Details of cases seen in the joint clinic with one diagnosis per patient are: ten fetal spina bifida (two underwent fetal repair in Leuven,

Belgium), six occipital encephalocele, ten ventriculomegaly, one dandy walker spectrum with ventriculomegaly, one case of craniopharyngioma, one sacral dysraphism, one myeloschisis, one large intraventricular haemorrhage with severe ventriculomegaly, one case of cavum veli interpositi.

This service is coordinated by Heather Hughes and Barbra Cathcart. The programme receives referrals from all over Ireland and is the only clinic of its kind in Ireland.

TERMINATION OF PREGNANCY FROM FATAL FETAL ABNORMALITIES/LIFE LIMITING CONDITIONS

2023 was the fifth year since the Health (Regulation of Termination of Pregnancy) Act 2018 was passed into law and permitted access to abortion in Ireland. There were 37 patients seen at The National Maternity Hospital who met the criteria for FFA/LLC under Section 11 of the Act and underwent termination of pregnancy.

Whilst the absolute numbers are not large, the time and workload that each of these sensitive cases entails is considerable. There are often multiple visits involving screening, ultrasound diagnosis, discussion of diagnostic procedures, interpreting results, genetic or other specialist consultation, informing patient of results, neonatal input and consideration of options before further visits and their admission. Information is given in a clear balanced manner about their options and that they will be fully supported in whatever path they choose. Not all couples with FFA/LLC choose termination of pregnancy and these couples are followed up in the Fetal Medicine Unit with a care pathway outlined for the remainder of the pregnancy and delivery with appropriate psychological, bereavement and chaplaincy support. We also continue to care for at least as many women who receive a diagnosis of a condition that is likely to result in severe disability who choose to travel outside of the jurisdiction for termination of pregnancy. We are indebted to Barbara Cathcart, Heather Hughes and Michelle Greene, who coordinate all of the above in a very calm, sensitive and efficient manner. Dr Claire Flahavan, Perinatal Therapist, continues to offer a much needed and valuable support service for couples who find themselves in these very distressing situations with excellent patient feedback.

Barbara Cathcart CMM2 Fetal Medicine, Prof Jenny Walsh, Fetal Medicine Unit Director and Heather Hughes CMS Fetal Medicine.

The workload of the unit remains busy in terms of both volume and complexity. The tables below summarise the level of activity over recent years. We continue to be recognised for full sub-specialty training in Maternal Fetal Medicine by the RCOG making this the only centre in Ireland for full training and this year Dr Fiona O'Toole continued her training. Publications from the Department are listed in the publications section in the Appendix.

As always, I would like to acknowledge the stewardship and contribution to ongoing development by Valerie Spillane (CMM3) and to all the team who every day go above and beyond to provide a safe, high quality and compassionate service to women and families.

Prof Jennifer Walsh, Consultant Obstetrician & Gynaecology and Fetal Medicine Department Director.

Table 1: Prenatal Screening and invasive diagnostic procedures.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
First trimester screening	979	822	478	380	340	275	199	177	184	99
NIPT (Harmony)	268	526	783	1183	1519	1818	2127	2159	2246	2281
Amniocentesis	105	101	91	90	105	126	118	126	93	127
Chorionic Villus Sampling	57	44	56	58	64	49	49	53	54	64
Total	**1409**	**1493**	**1408**	**1711**	**2028**	**2268**	**2493**	**2515**	**2577**	**2571**

Figure 1: *Prenatal Screening (excluding triple tests) and invasive diagnostic procedures*

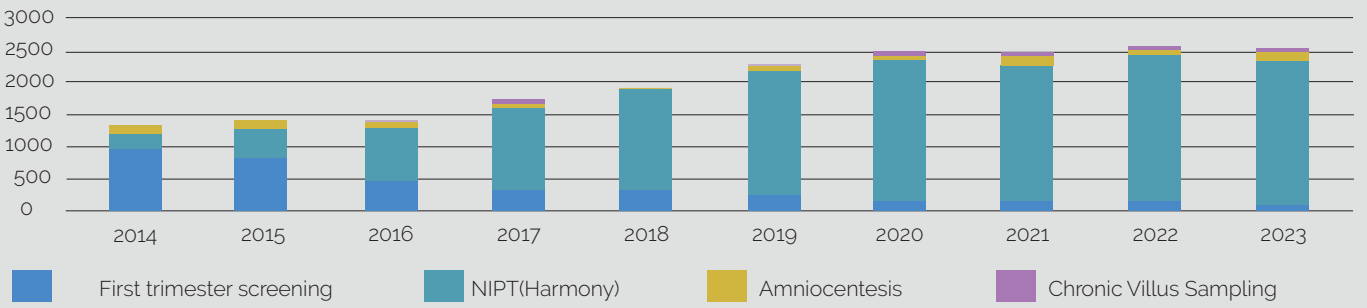


Figure 2: *Age Range of Mothers Delivered (*'*Aged >= 35 years includes those aged 40+)*

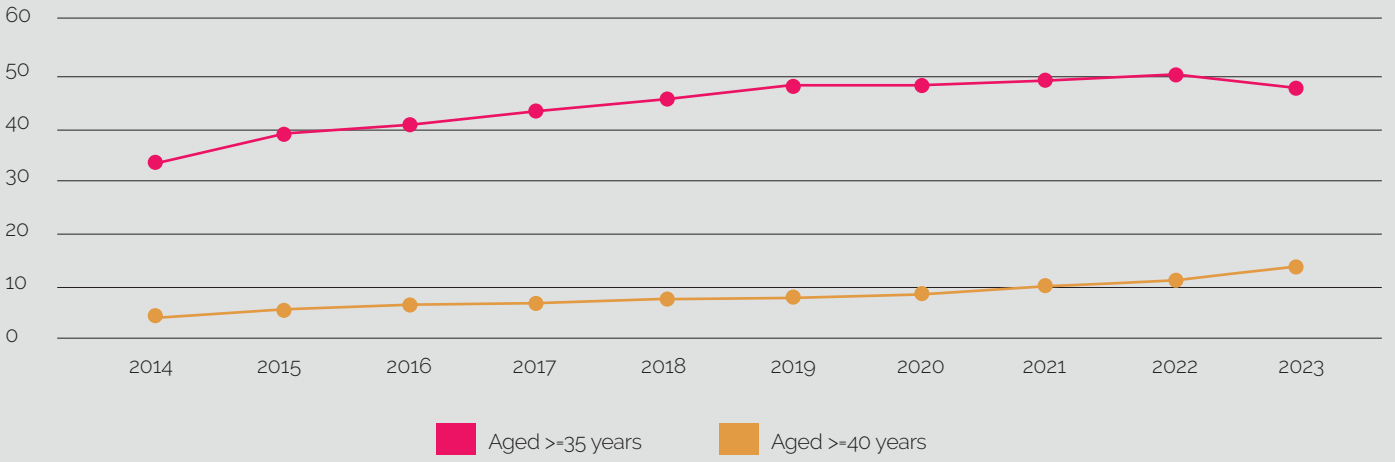


Figure 3: *Non-Invasive Prenatal Testing increasing since its introduction in 2013*

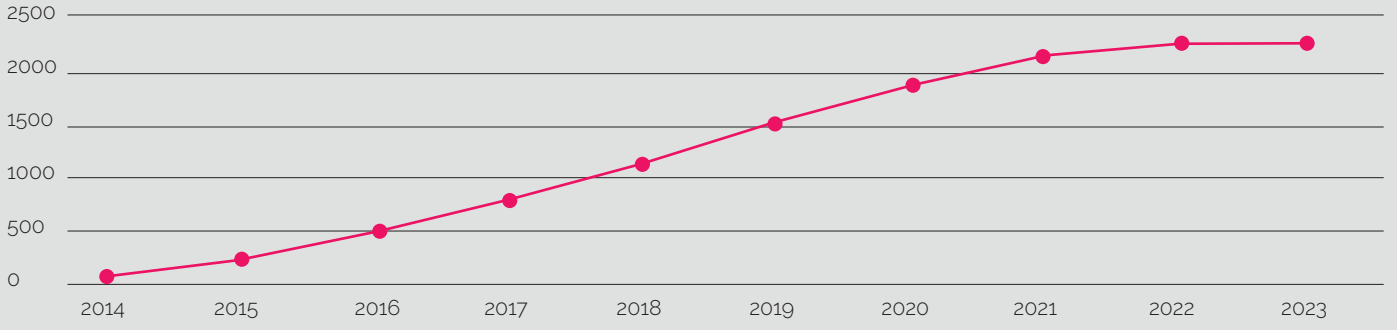


Table 2: Indication for Prenatal Diagnosis (Amniocentesis and CVS))

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maternal age	2	3	3	0	1	2	0	0	0	2
Abnormal fetal ultrasound	87	83	74	79	103	113	106	108	100	121
Positive screening test	40	31	37	45	37	36	44	37	21	35
Previous chromosomal abnormality/ carrier of translocation	10	11	16	10	6	9	3	13	2	15
Previous non-chromosomal genetic syndrome	18	12	13	12	9	8	8	7	13	12
Miscellaneous	5	5	4	2	13	7	6	10	11	6
Total	**162**	**145**	**147**	**148**	**169**	**175**	**167**	**175**	**147**	**191**

Table 3: Abnormalities Detected by Prenatal Testing

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Trisomy 21	31	23	28	33	28	39	39	31	22	36
Trisomy 18	13	18	17	18	15	23	22	16	25	20
Trisomy 13	9	4	5	1	8	8	9	8	2	5
Other aneuploidies	11	16	6	10	17	19	9	12	19	14
Non chromosomal genetic abnormality	5	3	8	3	2	0	4	1	8	4
Total	**69**	**64**	**64**	**65**	**70**	**89**	**83**	**68**	**76**	**79**

Table 4: Abnormalities Detected based on RCOG/RCR classification

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CNS (excluding choroids plexus cyst)	53	66	52	47	89	87	77	62	58	55
Head and Neck (including hygromata)	25	36	58	42	51	48	58	58	58	53
Cardiovascular system (excluding echogenic foci and untreated arrythmias)	65	94	78	73	50	62	82	79	66	66
Renal (excluding pelvic dilatation of <10mms)	47	45	36	46	34	45	35	46	45	61
Abdominal contents (including anterior abdominal wall defects and excluding echogenic bowel)	32	33	41	37	24	25	24	30	34	33
Skeletal	22	26	24	23	26	23	25	23	34	30
Thoracic (excluding cardiac abnormalities)	24	7	14	15	16	5	1	11	12	13
Others	24	27	40	42	49	40	42	34	15	34
Total	**327**	**334**	**343**	**325**	**339**	**335**	**354**	**343**	**322**	**345**

Table 5: Intrauterine Transfusions (IUT)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
No. of patients requiring IUTs	8	4	7	8	4	5	6	2	4	2
No. of IUTs	16	8	14	13	5	6	7	2	9	3

Emma McKinney, CNM1 Gynaecology Outpatients.

Gynaecology Outpatient Clinics

Dr Mohammed Abdelrahman Obstetrics & Gynaecology SpR and Dr Saran Kennedy-Williams, Obstetrics & Gynaecology SHO in the Gynaecology Outpatients Clinic.

The Gynaecology Outpatient Department provides an extensive range of general and specialised gynaecology services including benign gynaecology care, urogynaecology, fertility, complex menopause, premature ovarian insufficiency, adolescent care, oncology, rapid access menorrhagia, perineal, transgender services, colposcopy, hysteroscopy, recurrent miscarriage, pessary clinic and DES clinic.

Clinics run from 0800-1830hrs with 3 sessions per day: this has proven an efficient way of delivering a service, maximising clinic numbers within current infrastructural constraints. A total of 10,153 patients (excluding Colposcopy) attended the Department in 2023. The number of virtual appointments equated to 20.5% of all appointments, continuing an upward trend of offering greater convenience to patients while enhancing operational efficiency. 1,423 outpatient appointments were lost to DNAs in 2023 however, due to implementation of the National DNA strategy, DNA rates fell to below 10% by end of 2023.

Patients diagnosed with a molar pregnancy continue to be referred to the National Gestational Trophoblastic Disease Treatment and Advisory Centre at Cork University Maternity Hospital (CUMH) for ongoing management. A total of 34 patients were referred in 2023. This shared care agreement commenced in 2022 and has proven a valuable resource for both patients and staff. Access to patient information via MN-CMS on both sites is of benefit in supporting this arrangement.

The expansion of gynaecology outpatient services in 2023 included the introduction of two additional benign gynaecology clinics. A rapid access clinic was introduced in January 2023 to increase capacity for urgent referrals and provide a timely review of patients referred from the ambulatory gynae service: 266 new patients attended this clinic in 2023. Clinics were also restructured to create a standalone clinic specifically for Transgender patients.

Public funding for Assisted Human Reproduction commenced in September, leading to a significant increase in referrals to the Fertility Hub, challenging the service to create additional capacity within current infrastructure.

Other areas of expansion included the introduction of a trans labial scanning clinic as part of the National MESH Complications service. An additional Ambulatory Gynaecology session was also added, with further expansion planned in 2024, following completion of the new Ambulatory Gynaecology Suite.

The NMH Gynaecology Outpatient Department, in collaboration with SVUH, St Michael's Hospital, and St Columcille's Hospital Loughlinstown with support from the Ireland East Hospital Group quality improvement team, commenced a project in Quarter 4 2023 to centralise benign gynae referrals within the Dublin South East Region. The anticipated benefits of this project include: reduced referral duplication, enhance chronological scheduling creating equity for patients, reduced DNA rates and waiting times. Work will continue on this project in 2024 with plans to establish a Central Referrals Office in the NMH that will oversee the initial management and coordinate all benign gynae referrals across the 4 hospital sites.

The ability to fill vacant nursing posts in a timely manner continues to be a challenge in delivering a gynaecology outpatient service. Acknowledgment must be given to all staff involved in providing gynaecology outpatients services, including administration, nurses/midwives, doctors and allied health services. Their individual contributions have made it possible to continue to provide and expand this essential service.

Helen Thompson CNM3, Gynaecology Outpatient Services/Emergency Room.

Colposcopy

The Colposcopy service saw more than 3,000 new patients in 2023, more than in any of the previous 10 years. The increased sensitivity of primary Human papillomavirus (HPV) testing has resulted in more women being referred to colposcopy and the anticipated reduction in referral to colposcopy, as a consequence of the HPV vaccination programme, has not materialised. This is a finding reflected in other countries. The primary reason for this is that HPV screening has resulted in more women over the age of 50 being referred to colposcopy. These women had previously had normal primary cytology screening and were now being picked up as a consequence of the more sensitive HPV test. This cohort of patients are very challenging from a colposcopy perspective due to the unsatisfactory nature of the examination and the discomfort of the procedure for the patient. It has also become apparent that many of this cohort continue to exhibit HPV positivity, often in the absence of any Cervical Intraepithelial Neoplasia (CIN) changes and there is currently no exit strategy for them either out of the colposcopy service or out of more intensive screening. This is an unanticipated consequence of the switch to primary HPV screening and one that colposcopy units worldwide are dealing with. While our new attendances have increased, our return attendances have remained static. This is despite increasing numbers of women being discharged to primary care for HPV screening follow up. This is, again, due to the older age cohort requiring repeat colposcopy examination for HPV persistence.

Including colposcopy attendances and attendances for cervical screening tests, the colposcopy team saw 9,336 patients in 2023. Clinics are held Monday to Friday, with a total of 13 colposcopy clinics per week, with an increase of three more clinics per week than last year, as evening clinics are now held Monday, Tuesday and Wednesday. This extensive service is smoothly run by a highly trained, qualified team of British Society for Colposcopy and Cervical Pathology (BSCCP) accredited nurses, doctors, health care assistants and administration staff. Our overall Did Not Attend (DNA) rate of 3.5% is well within the Cervical Check recommended standard of 10%. The DNA rate for new appointments is 2.6% and for return appointments is 3.9%. These very low DNA rates reflect the value of our administrative staff phoning patients the day before their clinic appointment to confirm attendance.

Of the 3,108 new attendances, 2,649 were referred with low grade or normal cytology and HPV positivity. 291 were referred with high grade cytology and 168 were referred for clinical reasons. The Cervical Review Clinic has greatly facilitated the reduction in the number of women with clinical symptoms being referred to colposcopy, freeing up clinic slots for abnormal cytology. Further reduction in the referral for clinical reasons could be achieved with greater education of normal physiological change, especially during pregnancy.

Appointments are allocated according to the grade of cytological abnormality, aiming to work within the timeframes suggested by the Cervical Check quality standards. During the year, 279 out of the 291 (96%) women with high grade cytology were offered appointments within the recommended four weeks after the receipt of the referral letter. Of the 2,649 women with low grade or normal cytology and HPV positivity, 2,626 (99%) were offered appointments within the recommended eight weeks. This is a remarkable achievement and largely due to the restructuring of colposcopy clinics and the addition of the three extra evening clinics run by the Nurse Colposcopists.

Natasha Farron Mahon (seated), Colposcopist, Ciara Kenny, Healthcare Assistant with Dr Myra Fitzpatrick, Consultant Obstetrician & Gynaecologist (right).

2,941 diagnostic punch biopsies were performed in both new and return patients. The total number of treatments performed at 871, is the lowest in 10 years apart from 2020 when the COVID-19 pandemic was prominent. This is a positive impact of the HPV vaccination programme, with the number of LLETZ excisions in younger women who have been vaccinated dropping significantly. In addition, the adoption of conservative management in selected cases of CIN2, both in the vaccinated and unvaccinated population, has led to a reduction in treatments in this cohort. It must be remembered that each biopsy and excisional treatment is reported by our Histopathology colleagues, without whom the colposcopy service could not operate. The histology results are recorded in the table below.

1,422 histology samples recorded a diagnosis of high grade abnormalities including 15 cervical cancers and 20 cases of adenocarcinoma in-situ. While some of these represent two biopsies for some women, these results confirm the increased yield of high-grade histological abnormalities because of the more sensitive screening HPV test.

Clinico-pathological conference review meetings are scheduled monthly with review of the cytology, colposcopy and histology findings and these continue as a valuable addition to our service. We hold quarterly quality assurance meetings where the operational aspects of our service are assessed and scrutinised against Cervical Check standards

Structured training continued to be provided for trainees. This included regular web-based tutorials and a BSCCP course run by Professor Grainne Flannelly in preparation for the BSCCP Objective Structured Clinical Examination (OSCE) examination.

Dr Myra Fitzpatrick, Consutlant Obstetrician and Gynaecologist.

Colposcopy Attendances

Colposcopy	7492
Smear	1844
Total	**9366**

Histology Result	Overall (Diagnostic biopsy/ LLETZ / Cone)
Cervical Cancer	15
AIS/CGIN	20
CIN3	504
CIN2	883
CIN1	1604
CIN – Uncertain grade	32
VAIN 3	5
VAIN 2	13
VAIN 1	16
VIN 3	2
VIN 1	1
Normal	471
Inadequate	54
Other	21
Total	**3641**

	2019	2020	2021	2022	2023
New attendances	2294	1384	2506	2864	3108
Return attendances	5173	4174	3842	4395	4384
Total attendances	**7467**	**5558**	**6348**	**7259**	**7492**

Administrative Standards CervicalCheck

	NMH	Target
Proportion of patients referred with high grade smear seen within four weeks	96%	>90%
Proportion of patients referred with a low-grade smear seen within eight weeks	99%	>90%
Proportion of appointments which were unattended without notice	3.5%	<10%

Treatments

	2019	2020	2021	2022	2023
LLETZ	691	443	654	754	700
Knife Cone	29	10	17	15	5
Ablation	294	142	264	269	166
Total	**1014**	**595**	**941**	**1138**	**871**

**Number of biopsies performed and number of biopsies analyzed by pathology are not the same in any given time. As in previous years, the most severe abnormality is used for coding - a minority of cases have both squamous and glandular lesions present.*

Complex Menopause Service

The Complex Menopause Service continues to be a busy and evolving service since opening in 2021. The service provides care to patients from Kildare, Wicklow, Westmeath, Kilkenny, Wexford and South Dublin. We are staffed by part time GP Menopause Specialists and Trainers (Drs Cochrane and Lundy) and we often have candidates for Menopause Specialist accreditation working alongside (and are grateful for their assistance).
We continue to limit our consultations to people who have serious medical issues that make it challenging for menopause to be managed in primary care - principally after breast and other sex hormone sensitive cancers, people with known clotting issues and people with other cardio-vascular diagnoses.

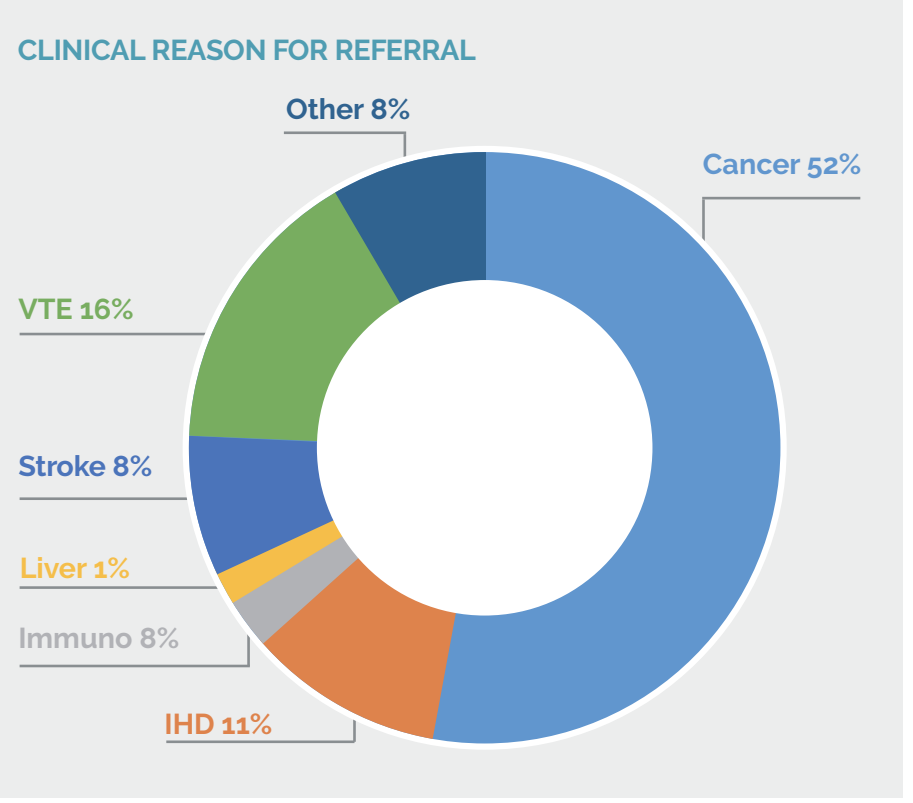
We also manage The National Maternity Hospital Premature Ovarian Insufficiency (POI) service which is not funded by the National Women and Infants Health Programme (NWHIP) grant but is paid for directly through the NMH, seeing patients from all over Ireland in our monthly assessment clinic.

Our full time Clinical Nurse Specialist (CNS), Denise McQuillan, deals with most of the patient communication and is an essential part of the clinical team while Sandra Lyons provides excellent administrative support.

In 2023, we received and processed a total of 1,224 referrals in the Complex Menopause Service and an additional 153 POI referrals. Of the 1,224 CMS requests 509 were deemed unsuitable mainly as they were outside of the catchment area, but also because many really just needed some support and advice. Many of these requests for advice were sent by letter and bespoke letters were sent to the referring GPs in these cases; this is all done outside of NWHIP funded clinic time and we hope to expand this service officially in the future.In all, 340 new, first time Menopause consultations were seen in The NMH. All of these are in-person and as most of these patients were followed up within 3-4 months and again 3-6 months later, we had over 1,000 patient- doctor encounters in 2023. This does not include our phone and email support service run by our CNS Denise McQuillan.

Of the patients seen, the overwhelming majority are people with a breast cancer diagnosis (53%) who need individualised advice and assessment as generally hormone therapy is not recommended. The next most common interaction is for people with thrombosis risk or diagnosis (16%) for whom the majority are offered hormone therapy if they choose to use the British Menopause Society guidelines. Waiting times have increased and it is now about 5-6 months on average before a first time appointment can be offered. Our feedback is overwhelmingly positive and in many cases, we do not actually provide medication as such for the patients but just a supportive ear and some information and referral to other additional supportive services.

Dr Deirdre Lundy, Clinical Lead, Complex Menopause Service.



Gynaecology Oncology

The gynaecological oncology service continued to develop during another busy year. The service is based between St Vincent's University Hospital (SVUH) and The National Maternity Hospital (NMH) and is part of the UCD Gynaecological Oncology Group (UCDGOG). This group, incorporating UCD, the Mater Misericordiae University Hospital (MMUH) and St Vincent's University Hospital is the largest Gynaecological Oncology Group in the country serving over two million people.

There were 137 patients referred to the service this year which is a decrease from 2022 (n=165). We are not sure why the referrals decreased but the complexity of the cases remained high. The bed crisis continued to affect the health service in general, thankfully our elective cancer surgery admissions to SVUH were transferred to beds in St Vincent's Private Hospital (SVPH) post-operatively. This was essential as without access to the private hospital beds, we would not have been able to care for all patients. It is a model of care that serves the campus and the patients very well.

Sarah Belton, Advanced Nurse Practitioner (ANP) in Gynae Oncology, was joined by our new Clinical Nurse Specialist, Sharon Glynn in May 2023. Sharon has extensive experience in the surgical management of cancer and is a great asset to the team. The ANP-led Gynae Oncology Family History Clinic, the first of its kind nationally, continues to grow and was awarded the Susanna Byrne Perpetual Award for nursing innovation and excellence by the HSE Nursing, Midwifery Practice Development Unit, Dublin South, Kildare and Wicklow in September 2023. This is a great achievement and the Department is honoured to have achieved such an award. The work of our specialist nurses is essential in providing a quality experience for our patients. Sarah Belton was delighted to receive the Director of Midwifery & Nursing Medal at Charter Day.

Sarah continues to be involved with the International Gynaecologic Cancer Society (IGCS) who have produced a comprehensive nursing curriculum to enable nurses in low and middle income countries to complete an online certificate program, improving the quality of care delivered to patient with gynaecological malignancies internationally. This programme was launched at the IGCS meeting in Korea in November 2023. So far, over 100 nurses around the globe have enrolled in the programme. The unit contributed two abstracts to the UCD Nursing Research conference in 2023.

Treatment Services

Almost all major surgery is now carried out at SVUH and diagnostic surgeries are carried out at NMH. Radiotherapy is provided mainly at St Luke's Hospital as well as SVUH. Medical oncology services are provided at SVUH. A limited number of patients who are suitable for peritonectomy and HIPEC (heated intraperitoneal chemotherapy) are treated in the Mater Hospital. The UCD-GOG group delivers the largest publically funded robotic surgery program in Ireland.

Multidisciplinary Structure Every woman with a new diagnosis of gynaecological cancer is discussed at a multidisciplinary team (MDT) meeting. There were 26 MDT meetings in 2023 at which 509 women were discussed. This is an increase from 2022, reflecting the increasing complexity of the cases.

Results

Endometrial cancer remains our most common cancer and 72 patients were treated during the year. The vast majority by minimally invasive surgery. The DaVinci robot system and the expertise of Mr Ruaidhri McVey has really helped treat the patients with higher BMIs.

Unfortunately, ovarian cancer continues to be the biggest challenge for the unit. The numbers continue to rise with 32 people diagnosed this year. These patients need a multidisciplinary approach and we get great support from Dr Fennelly and the medical oncology team in SVUH. Cervical cancer was diagnosed in 20 women and 6 cases of new primary malignant vulval cancer were diagnosed in 2023. Nine risk reducing surgeries were carried out in 2023, for women with a pathogenic variant predisposing them to gynaecological malignancies.

In October 2024, Dublin will host the annual meeting of the International Gynaecologic Cancer Society (IGCS). This meeting will see over 2,000 delegates in attendance with the exchanging insights, sharing research findings and discussing best practice. The NMH is well represented on the scientific committee for the meeting with Prof Donal Brennan and Sarah Belton involved. This will be a fantastic meeting and would encourage anyone with an interest in Gynae Oncology to attend.

Dr Donal O'Brien, Consultant Obstetrician & Gynaecologist and Sarah Belton, ANP Gynae Oncology.

Diagnosis Totals Per Cancer Type

	2022	2023
Cervix	36	20
Endo	69	72
Ovary	46	32
Vulva	6	6
Synchronous	6	1
Borderline	13	6
Total Cancer Diagnosis	**176***	**137**
Benign	46	42
Non-Gynae	14	12
Not for MDT	16	7
Recurrence	29	22
Second Recurrence	1	2
Unstaged	5	3
Primary Other Site	NA	5
Not Yet Confirmed	NA	5
Overall Total	**287**	**235**

* updated following year-end review and diagnosis

Ambulatory Gynaecology

NMH Christmas Day Swim 2023 in aid of The NMH Foundation.

The Ambulatory Gynaecology service has continued to expand in response to increasing demand.

The service is consultant-led. We have a candidate Advanced Nurse Practitioner (ANP) in outpatient hysteroscopy. The service is supported by nursing staff, healthcare assistants, administration, ultrasonographers, radiologists and pathologists.

Referrals to the Ambulatory service increased by 28% in 2023 and an additional clinic was commenced. There was an increase of 20% in operative hysteroscopic cases including polypectomy, myomectomy and hysteroscopic retrieval of intrauterine devices. 12% of women were referred for treatment under general anaesthetic. Approximately 20% of women referred did not require a hysteroscopy based on ultrasound findings and were assessed in the Gynaecology Outpatient Clinic.

We provide a rapid access pathway for women presenting with postmenopausal bleeding. We see most of these women within 28 days of referral. We see and treat women presenting with abnormal uterine bleeding, intrauterine polyps and fibroids. Other indications for referral include retrieval and insertion of intrauterine devices and fertility and miscarriage investigations and evacuation of retained products of conception. Procedures are carried out under local anaesthetic in an outpatient procedure room.

We plan to expand the service further in 2024 with the completion of a new Ambulatory Gynaecology suite. We hope to commence ANP-led clinics as well as cystoscopy clinics.

Dr Venita Broderick, Consultant Obstetrician & Gynaecologist.

	2018	2019	2020	2021	2022	2023
Total no of referrals to ambulatory gynae	518	640	812	1134	1369	1752
Total no of patients attending hysteroscopy clinic	471	582	718	1007	1119	1346
Total outpatient hysteroscopy procedures	431	497	713	914	1041	1213
Diagnostic hysteroscopy	355	395	563	689	831	971
Operative hysteroscopy	76	102	150	225	210	242
Cases requiring general anaesthetic	13.5%	6.7%	4.5%	9.5%	13%	12%

Paediatric and Adolescent Gynaecology

The Paediatric and Adolescent Gynaecology (PAG) service at The National Maternity Hospital is led by Dr Orla Sheil and Dr Venita Broderick, Consultant Obstetrician & Gynaecologists. Two clinics are held per week where girls aged 12+ are seen. The service represents one of the three specialist PAG clinics in Ireland.

The majority of referrals are for adolescent menstrual problems. Other common reasons for referral include pelvic pain and ovarian cysts. We also see girls with rare conditions such as congenital anomalies of the reproductive tract and premature ovarian insufficiency.

An audit of our service demonstrated high levels of obesity amongst patients attending the clinic. As a result of this, we have a nutrition and dietetics clinic running alongside our PAG where a one stop service is provided.

Many of the young girls attending the Adolescent Gynaecology clinics, and especially those with congenital anomalies have complex needs. The impact of these diagnoses both on the adolescent and their families is significant. These patients require frequent attendance and multidisciplinary care. We provide continuity of specialist care for women diagnosed with complex congenital conditions in childhood and in adolescence.We are working closely with colleagues at The Merrion Fertility Clinic to develop a fertility preservation service for young people at risk of premature ovarian insufficiency. We are delighted to work with Dr Niamh Joyce, Aspire Fellow in fertility preservation. Patients are seen by both a PAG and fertility specialist.

Young women up to age 25 who present with a variety of gynaecological issues such as abnormal uterine bleeding, pelvic pain and symptoms suggestive of PCOS, also attend this service.

We plan to continue to develop our service in 2024.

Dr Venita Broderick, Consultant Obstetrician & Gynaecologist.

Clinic attendances aged <18 yrs

Clinic attendances	New Patients	Return Patients	Virtual Appointments	Total
2023	119	87	114	330
2022	196	130	112	438
2021	171	89	95	309
2019	100	81	-	181
2018	77	81	-	159
2017	88	87	-	175

Total Clinic Numbers

Clinic attendances	New Patients	Return Patients	Virtual Appointments	Total
2023	320	295	246	861
2022	358	299	198	855
2021	427	316	236	979
2020	374	173	137	823
2018	77	81	-	159
2017	88	87	-	175

Reproductive Medicine

The Department of Reproductive Medicine at The National Maternity Hospital continued its expansion in 2023. These services were provided at the National Maternity Hospital (NMH), St. Michael's Hospital (SMH) and Merrion Fertility Clinic (MFC).

The National Maternity Hospital Fertility Hub

The National Maternity Hospital Fertility Hub is one of six Regional Fertility Hubs in Ireland and provides advice, investigation and treatment for eligible couples with infertility within the Ireland East catchment area.
It was established in 2022 by Dr David Crosby, Consultant Obstetrician & Gynaecologist and Head of Department of Reproductive Medicine, Ms Michelle Barry, Fertility Nurse Specialist, Ms Catherine Dunne, Fertility Administrator and Dr Sorca O'Brien, Aspire Fellow.
In 2023, an expansion of the services resulted in the appointment of Dr Maebh Horan, Consultant Obstetrician & Gynaecologist, Ms Jenny O'Donnell CMM1 and Ms Jess Dowdell CNM1.

A general practitioner referral is required to access the HSE Fertility Hub. If the couple meet the Fertility Hub access criteria, and following initial baseline assessment and investigation, the couples are assessed and a tailored management plan is made.

Management plans can include conservative management, reproductive surgery, ovulation induction with follicle tracking or onward referral for assisted human reproduction (AHR) to include Intrauterine Insemination (IUI), In Vitro Fertilisation (IVF), or Intracytoplasmic Sperm Injection (ICSI).

Since September 2023, these assisted human reproduction (AHR) services have been publicly funded through private AHR providers if couples meet HSE access criteria for publically funded AHR. In total, there were 722 referrals to the fertility hub in 2023, of which 477 met the HSE hub access criteria for fertility hub management.

Following the announcement of public funded AHR services commencing in August 2023, there was a significant increase in demand for the fertility hub services outlined in Figure 1.

Activity data for the hub is further outlined in Table 1. There were 48 clinical pregnancies reported from this service in 2023. Following the introduction of publically funded AHR services in September 2023, the fertility hub had referred 46 couples for assisted reproduction by the end of 2023. In response to the introduction of publically funded AHR services, the total number of referrals to the fertility hub increased by 171%. We will present detailed AHR outcome data in the 2024 annual report.

Outcome data for the 132 couples reviewed in the Fertility Hub in 2023 are presented in Table 2. There were 46 couples who were referred onward for public funded AHR services from between September and December 2023.

In addition to the fertility hub services, there were fertility-related gynaecology clinics which provided 219 first visits, 173 return appointments and 168 telephone consultations in 2023.

The number of reproductive surgery procedures performed by our service in 2023 is outlined in Table 3.

Merrion Fertility Clinic

Referrals to Merrion Fertility Clinic have increased significantly year on year. This increased referral level was maintained in 2023. In 2023, there were 1,123 new and 2,204 return consultations undertaken.

The number of IVF and ICSI treatment cycles continued to rise increasing by 7.5% last year, with 669 egg collections performed. Separately, the number of fertility preservation cycles, specifically egg freezing, increased by 40%, with 224 egg collections performed. Other services such as diagnostic semen analysis, grew by 13.7% to its highest ever level.

Introduction of Preimplantation Genetic Testing (PGT) services

In January 2023, Merrion Fertility Clinic obtained a licence to perform genetic testing on embryos prior to transfer. There are different types of testing available depending on patient need and include testing for aneuploidy, single gene disorders and structural rearrangements. The service is now operational with testing available for both newly created embryos and those that were previously created and frozen. The ongoing clinical pregnancy rate for patients who have achieved the transfer of tested embryos is 85.7%.

Fertility preservation in children, adolescent and young adult (CAYA) Fertility Project

The Childhood Cancer Fertility Project was launched jointly with the Irish Cancer Society (ICS) in August 2020. Merrion Fertility Clinic was successful in securing grant funding from the ICS for a threeyear project (2020-2023) to develop and provide fertility preservation for children, adolescents, and young adults. A sperm and egg freezing service for post-pubertal adolescents about to undergo gonadotoxic treatment is now well established and the post-treatment assessment and treatment clinic established for survivors of childhood cancer was extended to include young women up to the age of 26 years. This programme has been extended until the end of 2024.

Laparoscopic egg collections

In the vast majority of cases, patients undergoing fertility treatment can have eggs retrieved through the transvaginal route, using ultrasound guidance. However, this is not always possible, for example in cases of gynaecological malignancy. In these cases, the ovaries can be accessed laparoscopically. This procedure is carried out in the operating theatre at the National Maternity Hospital and the follicular fluid that is drained from the follicles is transported to the IVF laboratory at Merrion Fertility Clinic, where the eggs can be identified. They can then be frozen directly or used to create embryos to be frozen,

Jenny O'Donnell, CMM1 Fertility Hub.

allowing the patient to preserve their fertility. The first case was completed in 2021, with four cases performed in 2022 and six cases in 2023. We are the only centre providing this service nationally.

Aspire Fellowship awarded for Fertility Preservation (FP) in CAYA patientsIn 2023, The National Maternity Hospital (NMH) and Merrion Fertility Clinic were awarded a HSE-NDTP Aspire Post-CSCST Fellowship to develop and consolidate comprehensive clinical care pathways for fertility preservation in children, adolescent and young adult (CAYA) patients. Dr Niamh Joyce was appointed into this role; Dr Joyce works with the Reproductive Medicine team at the NMH and collaborators at Children's Health Ireland to develop this regional service. This includes assessment and management of fertility in CAYA males and females with oncological (pre- and postcancer), genetic (e.g. Turner's syndrome) and benign disorders (e.g. endometrioma).

Assisted Reproduction Outcomes, Merrion Fertility Clinic

Fresh embryo transfer cycles Clinical pregnancy rates (defined by the European Society for Human Reproduction and Embryology (ESHRE 2019) per embryo transfer for patients under 35 years was 51% in 2023. This rate decreased as expected with advancing female age, giving an overall clinical pregnancy rate for all patients having a fresh embryo transferred in 2023 of 34% (Figure 2). The mean age of women undergoing fresh IVF or ICSI cycles at Merrion Fertility Clinic was similar to 2022 at 37.1 years.

Frozen embryo transfer (FET) cycles

A cryopreservation programme is an essential element of an AHR clinic. If possible, the transfer of a fresh embryo following IVF or ICSI treatment is performed. However, there are many clinical and personal factors which require embryos to be cryopreserved rather than transferred in a fresh cycle. The clinical pregnancy rate for patents having a frozen embryo transfer (FET) cycle during 2023 was 45%, with a multiple pregnancy rate of just under 3%. Survival rates for vitrified blastocysts thawed was 99%.

Live birth rates

Live birth rates are the best marker of success in AHR but are reported one year later than clinical pregnancy rates. The live birth rate for patients who had a fresh transfer in 2022 was 31% (Figure 3), an increase of 5% from 2021. Live birth rates for patients who had a FET was 41%, an increase of 5% from 2021. Live birth following IUI treatment was stable at 10% for 2022. These live birth rates are excellent compared with international standards (ESHRE 2019), where they report live birth rates following IVF and ICSI of approximately 25% per transfer.

Single embryo transfer

Merrion Fertility Clinic has continued to build on its policy of single embryo transfer to minimise the number of multiple pregnancies. In 2023, 76% of all fresh transfers were single embryo transfers, an increase of 6% since 2022. The rate of

multiple pregnancy for the same period was down to 5.4% in 2023 from 6.6% in 2022.

Donor sperm treatments

Merrion Fertility Clinic commenced a donor sperm service in 2018. The service has been growing since and now made up approximately 9% of IVF or ICSI treatment cycles in 2023, an increase of 3% from 2022.

Female fertility preservation

The number of oocyte vitrification cycles provided by Merrion Fertility Clinic has risen exponentially. The clinical pregnancy rate following utilization of previously cryopreserved oocytes in Merrion Fertility Clinic was 30% in 2023.

Child, Adolescent and Young Adult (CAYA) Fertility Preservation Services

AYA Males: Twenty adolescent males (<18 years) were referred in 2023 for sperm cryopreservation services before undergoing gonadotoxic treatment or surgery for cancer or autoimmune disease. Of these 20 males, 18 attended the clinic at least once, 15 produced a semen sample and all 15 had sperm of suitable quality for freezing (mean of 8 straws frozen per patient). Three adolescent males were also referred post-gonadotoxic treatment or post-hematopoietic stem cell transplant (HSCT) as survivors, for routine semen analysis and fertility consultation.

AYA Females: Twelve adolescent females (<18 years) were referred in 2023 for consideration of oocyte vitrification before undergoing gonadotoxic cancer therapy. Eight young women started and completed a successful egg freezing cycle within a mean of 17 days (range 10-30 days) from first visit to the clinic, with a mean of 14 oocytes (range 8-24) per patient cryopreserved for future use.

Female survivors of CAYA cancer, who had previously received gonadotoxic treatment as part of their cancer therapy, are also eligible for fertility assessment and oocyte vitrification through the Childhood Cancer Fertility Project. Ten female survivors of CAYA cancer attended in 2023 for an initial fertility consultation, while five young women attended for a follow-up fertility consultation and ovarian reserve testing. Seven female survivors (mean age 23 years, range 17-26) had a successful oocyte vitrification cycle, with a mean of 7 oocytes (range 2-11) cryopreserved for future use.

Research

The Reproductive Medicine Department maintains an active and productive research portfolio, collaborating with scientists in Irish academic institutions and other teaching hospitals, and is a member of the UCD Perinatal Research Centre. Merrion Fertility Clinic employs a full-time Head of Research, and Clinical Research Fellow posts exist for higher training in Reproductive Medicine & Surgery, with fellows undertaking higher degrees. Merrion Fertility Clinic also hosts and mentors a number of MSc students. Research is aimed at improving knowledge, expertise and care pathways in the field of reproductive medicine. Our studies span a range of topics, from basic mechanistic biology to clinical translational research. In 2023, our researchers also worked closely with collaborators at several of Ireland's leading academic research institutions, including University College Dublin and Trinity College Dublin, on the following research projects:

Innate immune factors, endometrial receptivity and infertility

Endometrial microbiome and infertility
Glycome analysis in endometriosis (NIBRT collaboration) Follicular microenvironment in low ovarian reserve (Funding: Ferring)
Ovarian reserve in childhood cancer survivors (Funding: Irish Cancer Society)
Knowledge and attitudes among patients and healthcare providers towards proposed Irish assisted human reproduction (AHR) legislation

Assisted Human Reproduction Legislation

The Health (Assisted Human Reproduction) Bill 2022 is at the third, or committee stage in the Dail. The bill was delayed at the third stage to allow for the Committee on International Surrogacy to complete its work and for its recommendations to be included in the bill. This process is now complete, and all proposed amendments are being debated by the Select Committee on Health.

In 2024, we look forward to the further expansion of fertility services at the National Maternity Hospital and Merrion Fertility Clinic. We are very grateful to all the wonderful staff and patients who continuously make this possible and we are very excited about the next steps in our journey as a leading Irish Reproductive Medicine Service.

Publications are listed in the Published Research section.

Activity data for the hub is further outlined in Table 1. There were 48 clinical pregnancies reported from this service in 2023. Following the introduction of publically funded AHR services in September 2023, the fertility hub had referred 46 couples for assisted reproduction by the end of 2023. In response to the introduction of publically funded AHR services, the total number of referrals to the fertility hub increased by 171%. We will present AHR outcome data in the 2024 annual report.

Dr David Crosby, Consultant Obstetrician & Gynaecologist and Head of Department of Reproductive Medicine, NMH & Clinical Director, Merrion Fertility Clinic.

Tables and Charts

Table 1: Fertility Hub activity and outcome data 2023	
Total Referrals to the hub	723
Increase in referrals from September	171%
Ultrasound scans performed by the hub	185
Ovarian reserve testing	144
Tubal patency testing	98
Semen Analyses performed	250
Clinical pregnancies 2023 (spontaneous and ovulation induction cycles)	48
Number of AHR referrals*	46

Figure 1: Total referrals to the Fertility Hub by month in 2023.

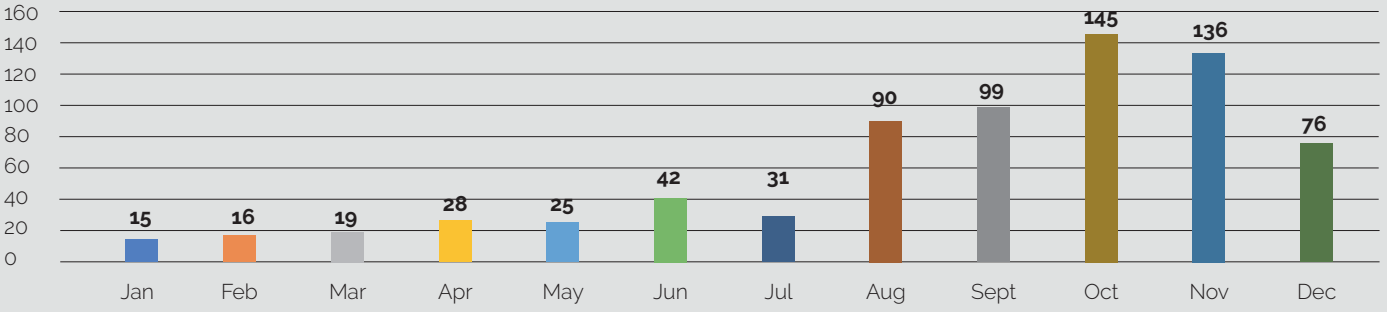


Table 2: Initial outcome management for couples attending Fertility Hub

	Couples	Reported to Hub in 2023**
Conservative management +/- further work up	49	12
Reproductive surgery	6	1
Ovulation induction and follicle tracking	8	5
Assisted Human Reproduction (not eligible/prior to public funding)	23	3
Assisted Human Reproduction (publicly provided)*	46	1

Table 3: Reproductive surgery under General Anaesthesia

	2023	2022
Hysteroscopy – operative and diagnostic	318	240
Operative laparoscopy	60	62
Diagnostic laparoscopy	82	107
Myomectomy	8	6

Figure 2: 2023 Clinical Pregnancy Rates by Maternal Age for Fresh IVF and ICSI Cycles

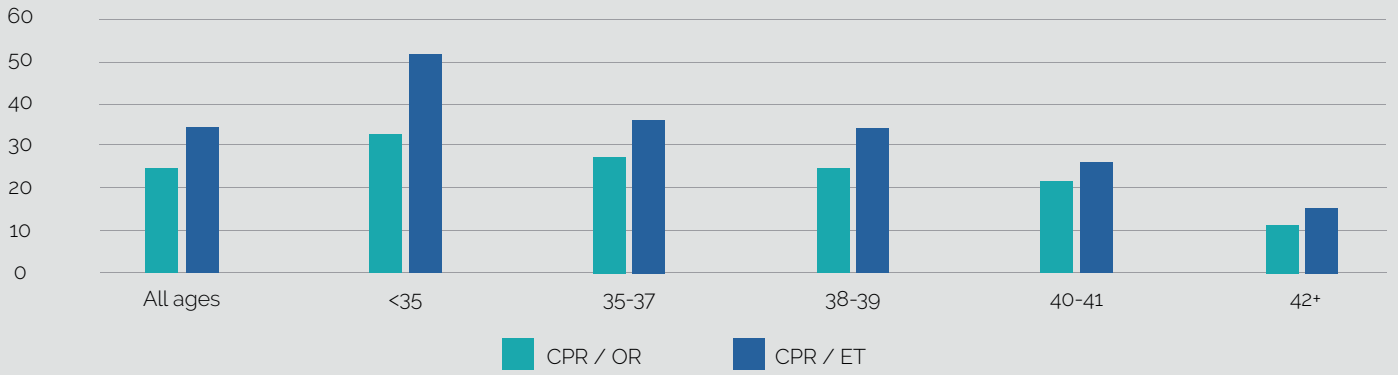
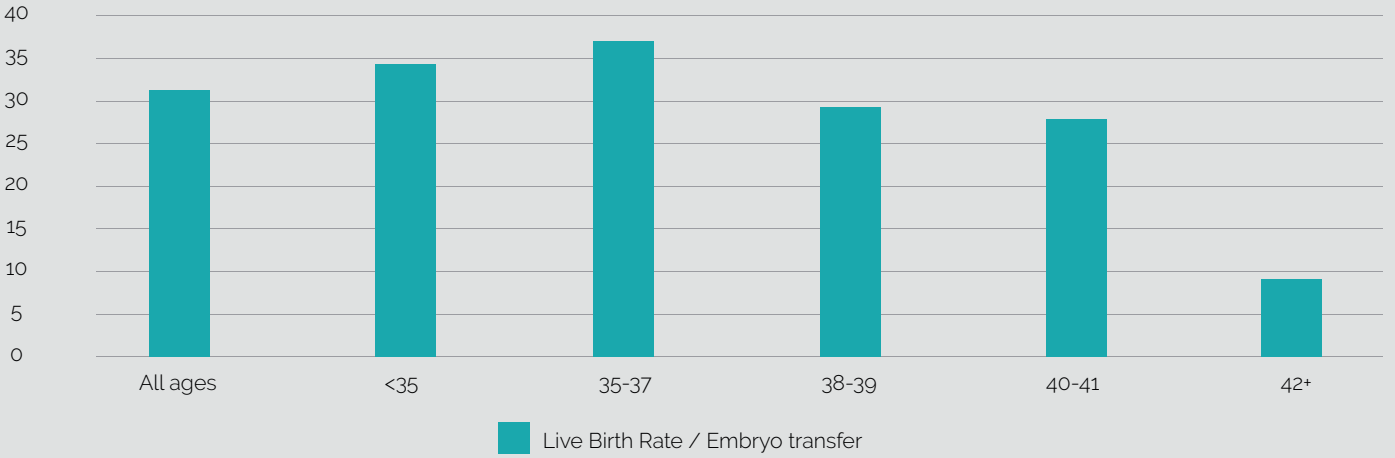


Figure 3: 2023 Live Birth Rates by Maternal Age



Urogynaecology

Emma McKinney, CNM1, Catherine Comerford, Staff Nurse and Anna Wilson, Health Care Assistant, in the Gynaecology Outpatient Clinic.

The Department experienced another very busy year in 2023 with very high demand for appointments.

The ongoing pause in the use of the Mid Urethral Sling for the treatment of Urinary Stress Incontinence in the UK and Ireland continues to pose a challenge. Among other issues, it has led to multiple return visits for patients in whom alternative treatment has proven less effective. We are also fielding multiple requests for referral abroad from patients who wish to undergo placement of a Mid Urethral Sling. These patients require extensive counselling about their potential journey abroad and reassurance that we will be on hand to provide follow up for them in Ireland on their return. On a positive note, we have been able to treat stress urinary incontinence successfully in a significant portion of patients through the use of Bulking Agents, Pubovaginal Fascia Slings and Burch Colposuspensions.

Our Departments' role continued to evolve during 2023 as one of only two centres in the Republic of Ireland designated to investigate and manage patients who may be experiencing a complication related to vaginal mesh surgery. These patients are referred from all over the country and have often had multiple complex procedures and have visited several specialists. They are frequently upset and confused by their symptoms and the treatment they have received to date. This is completely understandable but necessitates Consultants in the Department devoting significant proportions of clinic time to counselling and managing this group of patients. Our work in this endeavour has been strengthened and coordinated significantly by the stellar administrative work of Ms Caroline McMillan. In 2023, our colleague Dr Bobby O'Leary took up a new fellowship position that has seen him provide Trans Labial Ultrasound scanning for these patients at our Department and also with our colleagues in Cork. This tool has enhanced our understanding of symptoms in many of these patients. While it has placed an enormous demand on the resources available to the Department, the management of patients with suspected mesh complications has resulted in enhanced cooperation among the Urologists, Urogynaecologists, Colorectal surgeons, Pain Specialists, Physiotherapists and Urodynamics Nurse Specialists in Dublin with an interest in this area of female medicine. Our regular multidisciplinary meetings facilitates sharing of knowledge and consensus of expert opinion on the most appropriate management course for these patients.

The Urodynamics team at the NMH continues to work as an essential part of the Urogynaecology service. In addition to the essential diagnostic tests they perform, they also educate, support and follow up women who present with urinary retention in the antenatal, postnatal and postoperative period. The team have also provided leadership in the establishment of the Doctor-led, Nurse-run pessary clinics. This initiative provides a popular service where patients with a vaginal pessary get to see the same Nurse at each pessary change. This releases availability in the Consultant Urogynaecology clinic for the more complex cases while at the same time allowing rapid access to the Consultant service whenever required.

Looking forward to 2024, it is expected that the demand for Urogynaecology services will continue to grow. This is a global phenomenon which reflects the success of this subspecialty in improving the daily lives of women.

Dr Gerry Agnew, Consultant Obstetrician & Gynaecologist.

Urodynamic Clinic Attendances	2020	2021	2022	2023
Consultant Led				
New	454	700	656	444
Return	887	817	896	1001
Total Attendances	**1342**	**1517**	**1552**	**1445**
DNA Rate	*19%*	*12%*	*11%*	*11%*
Advanced Midwifery Practitioner (AMP) Led				
Total Attendances	**103**	**161**	**159**	**152**
DNA Rate	*5%*	*14%*	*9%*	*13%*
Urodynamics Performed	91	143	207	166
Flow Studies	27	36	22	26
Self Catherisation	14	10	12	9
Nurse Led Urogynaecology Referrals Source				
Consultant NMH	91	142	205	204
Consultant Elsewhere	0	1	2	0
Total Referrals	**91**	**143**	**207**	**204**
Nurse Led Urodynamics Diagnosis				
Normal Urodynamic Studies	9	27	19	37
Urodynamic Stress Incontinence	41	43	88	65
Mixed Incontinence	16	16	36	36
Hypersensitive Bladder	0	1	1	0
Overactive Bladder	23	0	50	23
Voiding Disorder	0	0	2	0
UTI No UDS – MSU Taken	1	0	1	5
Other	1	8	10	0
Total Diagnosis	**91**	**95**	**207**	**166**

Anal Sphincter Repairs

	2020	2021	2022	2023
Third degree tear	83	76	66	97
Fourth degree tear	3	5	5	1

Surgical Procedures*

Procedure	No
Cystoscopy	125
Injection of urethral bulking agent	72
Botox injection therapy	52
Anterior repair	44
Posterior repair	42
Vaginal hysterectomy	23
Pelvic floor repair	14
Cystoscopy and Injection of Bulking Agen	9
Perineal repair	9
Colposuspension	5
Mesh repair	3
Pubovaginal Fascia Sling	3
Vault prolapse repair-vaginal (VAULT SU	3
Colpocleisis	2
Cystoscopy and Injection of Botox	2
Evacuation of vulval haematoma	2
Repair of Fourth Degree Tear	2
Division of septum - vagina	1
Evacuation of haematoma-vaginal	1
Excision of septum of vagina	1
Excision of Urethral Prolapse	1
Labial reduction	1
Removal of Mesh Exposure	1
Total	**418**

** procedures not patients*

Anaesthesia, Pain Medicine and High Dependency Care

Dr Mohamed Elshaikh, Labour Ward Fellow and Dr Ingrid Browne, Consultant Anaesthetist in the Labour & Birthing Unit.

Dr Siaghal Mac Colgáin completed his term as Director of Anaesthesia in 2023. Dr Padraig Calpin and Dr Omar Elabassy joined us as locum Consultant Anaesthetists during the year.

There were 12 anaesthesia NCHDs in the department from January - July and 14 from July - December 2023.

Operating Theatre Activity

The Department of Anaesthesia continued its high level of activity in 2023. The total number of procedures performed in theatre was 5,966 which is an increase of 192 on 2022.

Analgesia for Labour and Delivery

A wide range of multi-modal labour analgesic options are used by mothers including both non-pharmacologic (relaxation therapy, aromatherapy, TENS) and pharmacologic methods (nitrous oxide inhalation, intramuscular opioids and neuraxial techniques). Intravenous remifentanil patient-controlled analgesia during labour was also offered for labouring patients with contraindications to neuraxial blockade, and those who preferred it over an epidural. Six mothers availed of this choice.

Postpartum Anaesthesia Review

This service was established in 2021. We perform the postpartum anaesthesia ward round daily, with the intention to review every postnatal patient who had an anaesthetic intervention. We use this opportunity to ensure each woman experienced high quality anaesthesia care, and to arrange appropriate follow up should it be required.

Epidural Rate

MN-CMS recorded a total of 3,486 epidurals. Subtracting the number of mothers who had a 'pre-labour' caesarean section (1,582) from total delivered (6,764), gives us the closest approximation of mothers who commenced actual labour and thus potentially had an opportunity to request epidural analgesia.

1,582 Caesarean sections (approximately 65%) were elective. Post Dural Puncture Headaches (PDPH) and Epidural Blood Patches

There were 16 patients requiring epidural blood patches in 2023, with one patient requiring a repeat patch.

Total rate of epidural blood patches for epidural anaesthesia: 0.34%

Total rate of epidural blood patches for spinal anaesthesia: 0.23%

Not all patients who had accidental dural puncture developed PDPH.

Not all patients who had PDPH had recognised dural puncture.

Ninety-nine women required an unanticipated general anaesthetic to facilitate delivery of their baby. 50 of these cases occurred in the hours 8pm to 7am during weekdays, or during weekend hours.

High Dependency Unit (HDU)

There were 156 instances of patients requiring admission to HDU in 2023. This is a 9.5% increase on the figure from 2022. The most common reasons for HDU admission were haemorrhage, hypertensive disease of pregnancy and sepsis.

There were 8 patients transferred from HDU to a tertiary referral general hospital for further specialist care. This figure included 2 patients for critical care, 2 patients for admission under a specialist medical team and the remaining 4 patients were admitted for interventional radiological/surgical procedures or imaging.

'Sips til Section'

The Department of Anaesthesia at the NMH was the proud winner of the National Office of Clinical Audit Quality Improvement award for 2023. Our innovative project, encouraging women scheduled for elective caesarean section to drink water right up until the time they are called to the theatre, has drastically reduced our fasting times and hugely contributed to the comfort and safety of women undergoing surgery. We have now extended this initiative to our gynaecological patients and are encouraging them to keep hydrated before coming to theatre also.

Gynaecology

We provide anaesthesia for large numbers of patients undergoing major and minor gynaecological procedures. In August 2022, we introduced short acting spinal anaesthesia with prilocaine to facilitate early recovery and timely discharge of suitable patients, while minimizing their risk of post operative nausea and vomiting. In 2023 we continued to utilize this novel technique.

Outpatient Clinics

The Anaesthesia High Risk Clinic is held every Tuesday and Wednesday afternoon. In this clinic we see antenatal patients with complex medical issues, or previous anaesthesia complications. These women are referred to us by our obstetric or midwifery colleagues. We also see postnatal patients who have had unanticipated general anaesthesia to facilitate delivery, failed neuraxial techniques, or complications such a dural puncture headaches. In 2023, a total of 387 women attended these clinics. A further 59 women who required multi-disciplinary input were discussed at our Wednesday morning maternal medicine multi-disciplinary team (MDT) meetings, and then reviewed in one of our MDT clinics which run on the last Wednesday of each month.

Pre-Assessment Clinic

The pre-assessment clinic (PAC) endeavours to pre-assess all gynaecological patients requiring an anaesthetic. It is nurse-led clinic with strong anaesthesia support. The team consists of Niamh Carney CNM2, Carmel Breen CNM2, our dedicated administration support person Ciara Luckie, and Consultant Anaesthesiologist Dr Nikki Higgins. See the summary of this clinic's activity for 2023 in the Pre-Assessment Clinic chapter of this NMH annual report.

Pain Medicine Service

The chronic pain medicine service continued to welcome multidisciplinary referrals from within house, from consultant obstetric and anaesthetic colleagues, physiotherapists, midwives and from primary care physicians in the community. There were 98 invasive interventions in the form of local anaesthetic, local anaesthetic with steroid injection and radiofrequency neuromodulation all of which were provided by Dr Kirk Levins in the operating theatre during the year.

Data collated from MN-CMS, Theatre Database & Audit Projects.

Dr Nikki Higgins, Consultant Anaesthesiologist.

Mode of Anaesthesia for C-Section on MN-CMS

	Total Delivered	Pre-labour C-Section	Epidural	Rate %
Total	6764	1582	3486	67% (3486/5182)

Mode of Delivery after Epidural Analgesia

	SVD	OVD	C-Section
Nullip	904 (44%)	606 (30%)	544 (26%)
Multip	1224 (86%)	107 (7%)	101 (7%)

Mode of Delivery after Epidural Analgesia

	N	%
Spinal	1741	71.%
Spinal/Epidural	18	0.7%
Epidural	571	23.3%
General	99	4%
Not recorded	21	0.8%
Total	**2450**	

Emergency Department

The Emergency Room provides a dedicated in-person and telephone triage service 24 hrs a day for women requiring urgent pregnancy and gynaecological care. Patients present with a range of conditions during pregnancy including early pregnancy pain, bleeding, hyperemesis, reduced fetal movements, hypertension and postnatal complications such as suspected infection. Gynaecological presentations include pelvic pain, abnormal vaginal bleeding, vaginal discharge, ovarian cysts and prolapse. The Emergency Room also accepts acute benign gynaecology transfers from St Vincent's University Hospital, for example pelvic pain, ovarian cysts.

Kim Byrne (left) with Caroline Roessing, Staff Midwife ED.

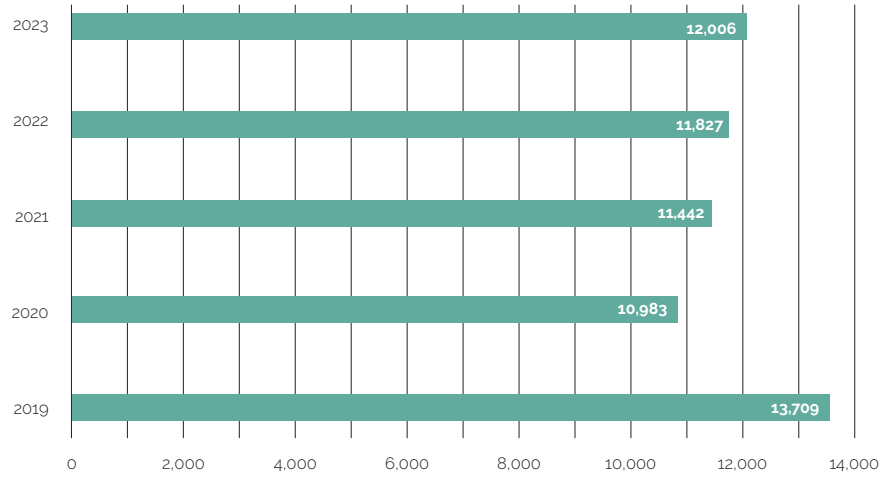
Despite a slight reduction in overall births at The National Maternity Hospital, Emergency Room activity remained high in 2023. A total of 10,366 patients attended the Emergency Room in 2023: 8,469 antenatal, 748 postnatal and 1,149 gynaecological patients. In addition to the in-person attendances there is a very large number of virtual consultations which take place daily. There was an increase in Gynaecology attendances as there were challenges in accessing timely review in primary care and the expansion of gynaecological services at the NMH during the year.

The Emergency Room also supports the Early Pregnancy Assessment Unit at weekends and bank holidays, providing hCG blood tests and follow up to determine outcomes for patients with complications in early pregnancy: there was a total of 376 of these attendances in 2023.

Staff continue to deliver dedicated care for patients in a timely and supportive manner despite infrastructural constraints and high activity levels. Patient care is provided by experienced Clinical Nurse Managers, Staff Midwives, Healthcare Assistants and NCHDs and the service is overseen by a Consultant Obstetrician & Gynaecologist. A number of midwifery staff are qualified in ultrasound scanning and registered as midwife prescribers thereby providing clinical autonomy in care delivery.

Helen Thompson CNM3, Gynaecology Outpatient Services/Emergency Room.

External Clinic Attendances 2019-2023



Specialist Perinatal Mental Health Service

The Specialist Perinatal Mental Health Service at The National Maternity Hospital (NMH) aims to deliver high quality, evidence-based, innovative mental health care to women who are pregnant and up to the first year of the baby's life. Good perinatal mental healthcare not only improves the experience of women going throughpregnancy and new motherhood, but it benefits the infant's physical and mental health both in the short and long-term.

The hub service provides support to all women booked at NMH, while the spoke services provide support for women booked in at Wexford, Kilkenny and Mullingar. We offer a biopsychosocial approach considering the whole family unit, delivered by the multidisciplinary team. Women may be offered individual case management, preconception counselling, group therapy or other specific perinatal therapies. It is largely an outpatient service, but there is also a liaison service for inpatients admitted during pregnancy, birth or postnatally.

One in five women suffer with a mental illness during pregnancy or the first year post birth. Therefore, there continued to be a high number of referrals to the Perinatal Mental Health Service in 2023. 1,405 women were referred during 2023. Of them, 1,232 women attended for their first mental health assessment. Initial assessments are mostly held in-person, with follow up sessions offered remotely due to the infrastructural limitations of the hospital. In order to provide in-person mental health care wherever possible, this year we opened a satellite clinic at Harold's Cross. This has been well-received by women who attend the CNS, Midwife, Psychology and Social Work clinics there. We have developed our triaging processes to more accurately identify women with perinatal mental illness requiring individual assessment treatment, from women struggling with the normal emotional reactions to pregnancy, birth and matrescence that may be better served by group therapy. We continue to offer a range of specific individual and group therapies to provide timely, targeted support to meet their individual mental health needs (see box).

We work in conjunction with community mental health services for patients with severe and enduring mental illness, and carry out pre-birth planning meetings with teams and families to prepare for the birth and arrival for the baby. The aim of prebirth planning is relapse prevention and early intervention where there are signs of relapse. We also offer prescribing and perinatal mental health advice by phone for Hospital staff and Primary Care colleagues where a referral may not be needed. We provide Section 9 assessments for Termination of Pregnancy.

This SPMHS is delighted to offer Eye movement desensitization and reprocessing (EMDR) therapy which is a specific intervention for the treatment of Post-traumatic stress disorder, provided by Dr Aoife Menton. Cat Hinds, Perinatal Psychiatrist, has established a Video Interaction Guidance service, delivering intensive bonding therapy for women and babies with disrupted bonding secondary to perinatal mental illness.

The Model of Care for Specialist Perinatal Mental Health Services is currently under review, addressing the country-wide increasing demands on the hub and spoke services, and the geographical gaps in service provision. Expanding the consultant provision, in both the hub and spoke sites, will be part of the proposals as well as partial MDTs in the spoke sites. In the meantime, the team continue to support the three spoke sites of Wexford, Kilkenny and Mullingar (until the Regional Health Authority change comes in), with a virtual outpatient clinic provided for Wexford, and regular teaching sessions for the spoke midwives. Adele Kane and Cat Hinds sit on the Steering Group for the new Model of Care for SPMHS.

The lack of specialist inpatient provision for perinatal mental health patients remains a major issue nationally. We are currently working on the plans for a much needed new MBU (mother and baby unit) on the St Vincent's University Hospital Campus.

The MDT are all involved in education, for psychiatrists, medical students, specialist trainees, midwives, primary care clinicians, delivered in person and by online lectures, supervision of postgraduate students, and by developing education modules and programmes in perinatal and infant mental health. The Mental Health Midwives, Deirdre Molloy and Georgina Mulligan deliver the mental health component of Antenatal Education at NMH. Aoife Menton, Adele Kane, Cat Hinds and Prof McCarthy sit on the National Oversight Advisory Group for SPMHS. Georgina Mulligan has developed the Antenatal Standards Resource Guide. Cat Hinds chairs the Perinatal Psychiatry Special Interest Group at the College of Psychiatrists of Ireland.

Dr Catherine Hinds, Consultant in Perinatal Psychiatry.

The Perinatal Mental Health Team

GROUP THERAPY

Pregnancy After Loss: Online group launched in 2022 by Aoife Menton, in partnership with the bereavement service, for women adjusting to a pregnancy after miscarriage, intrauterine death or other loss.

Baby Massage: Launched in November by Elaine Smythe, Deirdre Molloy and facilitated by Fidelma Shortall. 5-week rolling course held at NMH to help develop bonding between mother and infant for women under SPMHS.

Relaxation Group: Anxiety management group for long-stay inpatients, run by Deirdre Molloy and Georgina Mulligan.
SPMHS Classes (available to all NMH women)

Health Minds: Online antenatal group for all women attending NMH for support with mental health challenges in pregnancy.

Postnatal Wellbeing: Online support group for postnatal women, open to all women delivering at NMH.

COMING UP IN 2024:

OT activity group: For long-stay inpatients coping with prolonged bedrest, by Fidelma Shortall.

Postnatal Café: Regular drop-in group for SPMHS patients to connect with other parents, peer support and education about perinatal mental health.

Birth Empowerment: Group for women with tokophobia, or anxiety relating to past Birth Trauma.

Hyperemesis Group: Emotional support for women suffering with hyperemesis.

Pathology and Laboratory Medicine

The laboratory service covers the scope of Pathology and Laboratory Medicine with Biochemistry, Blood Transfusion, Haematology, Histology and Microbiology laboratories. The service is provided 24/7 in accordance with clinical need. In addition, a microbiology service is provided for the Royal Victoria Eye and Ear Hospital. In addition to tests provided 'in-house' the department manages specimens referred to reference laboratories. Accreditation of the services to ISO 15189 was retained in 2023 through an on-site inspection.

Gwen Connolly, Senior Medical Scientist.

Staff Changes

2023 was a busy year for recruitment. Ms Natalie Keogh resigned from her post as Chief Medical Scientist in Blood Transfusion and her position was filled by Ms Aoife Reynolds. Ms Carly Keegan was appointed as a Senior Medical Scientist in Blood Transfusion. Ms Sarah Fagan joined the Blood Transfusion team as a Medical Scientist and Christine Clifford joined the team as a Senior Medical Scientist.Ms Orla Maguire retired from her post as Consultant Clinical Biochemist in May 2023. Prof. Carel le Roux took up the role of Consultant Chemical Pathologist for the Biochemistry Laboratory in July 2023. Mr Olukayode Adeyemi resigned from his position as Medical Scientist in Biochemistry. Ms Rebecca Rock started as Medical Scientist in Haematology. All medical scientists are compliant with statutory regulation requirements. Mr. Moses Olayonwa joined the Microbiology team. Ms. Mariela Zalduendo moved from Microbiology to Specimen Reception for a promotional post. Mr. Andrew O'Keeffe and Ms Sarah Brady moved on a 0.5 basis to the Laboratory Information Scientist role.

CLINICAL ACTIVITY

There were 187,480 sample requests on 29,645 individual patients in 2023. This equates to 1.12 million results. The Blood Transfusion laboratory continued to work with clinicians on implementing of national guidelines for massive haemorrhage. Please refer to Figure 1 (Laboratory Requests Summary 2015 to 2023) and Figure 2 (Change in workload (%) 2023 vs 2022).

Successes and Achievements

Alison Nolan completed her Masters in Clinical Chemistry from Trinity College Dublin. Ms. Anna McCormick completed her Masters in Healthcare Infection from Trinity College Dublin

Challenges

The Department provides a multidisciplinary 'on call' service which is staffed by two medical scientists every day. Training scientists to provide this service and ensuring that their competence is retained by 'update' training is a challenge particularly with staff working flexible rosters. Maintaining an outdated Lab Information System (LIS) requires significant staff time. The nationwide Medical Scientist shortage, which is now exacerbated by HSE recruitment freeze, has made hiring of medical scientists very difficult. Infrastructure and space challenges in the laboratory remain. A business case has been submitted to NWIHP for second consultant microbiologist for NMH and RVEEH.

Plans for 2024

- Advance plans for infrastructure in Anatomic Pathology
- Manage the reconfiguration in Biochemistry and verification of new analysers.
- Continue close co-operation and drills with clinical staff on responding to massive haemorrhage.
- Ongoing work on the proposed colocation of The NMH on the St Vincent's University Hospital Campus at Elm Park.
- Request funding from HSE for LIS upgrade

QUALITY MANAGEMENT

The Department of Pathology and Laboratory Medicine is committed to promoting and providing the highest quality diagnostic and consultative services for all its users and to the implementation of The National Maternity Hospital mission statement. These commitments are defined within the Laboratory Quality Policy. The department defines and audits the quality management system to ensure compliance with the ISO 15189 standard.

Activity

The Department of Pathology and Laboratory Medicine maintained accreditation across all disciplines to the ISO 15189 standard, in addition to being awarded an extension to scope for additional tests. By successfully retaining the flexible scope of accreditation system, the laboratory was able to provide an uninterrupted accredited service as quality improvement initiatives were introduced. The laboratory submits an Annual Report for Blood Transfusion to the Health Protection Regulatory Agency (HPRA) documenting the activity for the previous year and reports of blood usage, wastage and planned changes within the department. The 2023 report was successfully submitted and accepted by the HPRA.

Successes and Achievements

Please refer to Figure 3 (Audits performed in the Department of Pathology and Laboratory Medicine 2023). The laboratory will use the action plan from the established Annual Management Review, to improve our service to our users and provide better care for the patients of The National Maternity Hospital.

Plans for 2024/2025

- Maintenance of INAB accreditation service.
- Commence the implementation of the new accreditation standard into the laboratory Quality Management System.
- Standardisation and accreditation of the point of care testing service (ISO 15189:2022)
- Verification and implementation of new equipment and tests across all departments.
- Consider further expansion of the flexible scope of accreditation system to Blood Transfusion and Anatomic Pathology.
- Perform User satisfaction survey in 2024.

BIOCHEMISTRY

The Biochemistry Department provides an extensive range of Biochemistry, Endocrinology and specialised fetal monitoring for both the NMH and other hospitals.

Clinical Activity

The Endocrinology service continues to support an increase in fertility investigations.

Successes and Achievements

- Verification and upgrade to a new Free T4 assay.
- Verification of Procalcitonin and IL-6 as potential in-house markers of sepsis.
- Upgrade from Roche CiTM to Roche Cobas Infinity data manager for endocrinology testing.

Plans for 2024

- Reconfiguration of Biochemistry Laboratory in preparation for replacement analysers.
- Verify and introduce new general chemistry and endocrinology analysers to include a backup analyser for both platforms to minimise downtime.
- Upgrade and verification of Roche Cobas Infinity data manager for general chemistry.
- Verify and introduce four Point of Care Ketone Meters.
- Verify and introduce two iSTAT analysers for FBS analysis in the DW.
- Further expand the in-house Biochemistry and Endocrinology test repertoire.
- Begin accreditation process for point of care testing in the NMH in line with the new ISO15189:2022 standard.

BLOOD TRANSFUSION

The service includes: the investigation of blood group and antibodies, provision of blood and blood products, supporting the prevention and management of Haemolytic Disease of Foetus and Newborn through detection and monitoring of antibodies and the provision of routine Antenatal Anti-D prophylaxis. Following review of results of foetal RhD screens analysed in the Irish Blood Transfusion Service (IBTS).

Successes and Achievements

- Procurement and verification of two new blood group and antibody screening analysers
- Implementation of NCEC Guidelines for Unexpected Intraoperative Life Threatening Haemorrhage
- Laboratory participation in multidisciplinary major haemorrhage skills and drills sessions
- Implementation and validation of two new igloo blood transport containers to allow rapid transport of blood/blood products with patients from the NMH
- Continuous provision of training/retraining of scientists for provision of the on call service

Plans for 2024

- Go live with the introduction of two new blood group and antibody screening analysers
- Verification of automated antibody titrations on the new blood grouping analysers – aim to reduce antibody titration turnaround times
- Verification of titre score method (for patients at 28 weeks gestation who have received prophylactic Anti-D Ig initially) - aim to reduce referrals to the IBTS for Anti-D Quantitation.
- Introduction of 28-week Group and Antibody Screen testing for all antenatal patients
- Introduction of new Fibrinogen concentrate product (Fibryga)
- Implementation of new back up blood stock refrigerator.

HAEMATOLOGY

The haematology laboratory investigates blood disorders and is critical for the

detection and management of anaemias, sepsis and coagulation disorders. In addition, Kleihauer tests are used to estimate fetomaternal haemorrhage.

Successes and Achievements

- Manual white cell differential procedure for adults and neonates reviewed and updated with provision of advanced results for sepsis monitoring
- Introduction of PLT-F parameter to aide in the provision of accurate platelet count especially at very low levels.
- Introduction and verification of the ACLTOP 550 coagulation analyser in order to provide accurate fibrinogen, PT and APTT results

Plans for 2024

- Expansion of coagulation service to include Lupus anticoagulation testing.
- Submit a business case for the procurement of an analyser for provision of improved haemoglobinopathy screening to comply with guidelines and to link this with the Biochemistry plan for provision of HbA1c.
- Improvement of management and analysis of results from the ROTEM haemostasis point of care analyser from the haematology department.

HISTOLOGY

Histology provides a diagnostic service examining tissues arising from surgical specimens taken in theatre, outpatients, placentas and a perinatal pathology service.

Clinical Activity

During 2023 outpatient activity rose to a record level, impacting on turnaround times.

Successes and Achievements

- Increased the repertoire of immunohistochemistry tests available in the department through the introduction of additional equipment and streamlining of testing procedures.
- Installed and verified new microtomy equipment to support the processing of the increasing workload.
- Continued participation in the NQAIS quality program.
- Continued participation in external EQA programs such as Nordi QC and Neqas with added participation in the Neqas Tissue Diagnostic Scheme.
- Participated in the training of TUD students

Plans for 2024

- The Department continues to work with the Executive Management Team and the Ireland East Hospital Group (IEHG) to seek appropriate facilities.
- The department plans to complete the introduction of ISH testing
- Expand the available voice recognition services.
- Expand the role of Medical Scientists in histodissection. Regional Perinatal Pathology service for IEHG based in NMH

MICROBIOLOGY

Service Overview

The Microbiology laboratory provides a routine bacteriology testing and molecular microbiology service for both the National Maternity and Royal Victoria Eye and Ear Hospitals. Surveillance reporting is provided for both hospitals

Clinical Activity

In addition to provision of the routine service 2023 was dedicated to expanding our molecular testing repertoire in our laboratory with the expansion of molecular testing for faecal pathogens, reducing the turnaround time for results compared to the previous reported from culture and lateral flow methods. This also included an increase in the number of pathogens being tested.

Further to this, the ongoing re-evaluation of current testing services provided and updating them to better reflect current requirements. Surveillance reports for MRSA colonisation, rectal screening, influenza rates and blood stream infections are provided to guide infection control. Regular reporting of Sars-CoV-2 testing and infection rates is supplied to the HSE.

Successes and Achievements

- Accreditation of VITEK MS Maldi-TOF for the identification of yeast.
- Introduction of molecular testing for gastrointestinal pathogens from faeces samples, replacing culture and lateral flow methods.
- Accreditation of testing for Sars-CoV-2 on all platforms used (GeneXpert, Aus Diagnostics and BioFire FilmArray).
- Mr. Andrew O'Keeffe present a poster on "Comparison of Molecular Assays for Sexually Transmitted Infection Screening from Genital Swabs; An Evaluation of a Molecular Method for the Detection of Bacterial Vaginosis Compared to Gram Stain from High Vaginal Swabs" at the 2023 ECCMID conference in Copenhagen, Denmark.

Plans for 2024

- Seek accreditation for molecular testing for gastrointestinal pathogens from faeces samples on the BioFire FilmArray.
- Introduction and verification of in housetesting for Chlamydia trachomatis / Neisseria gonorrhoeae / Trichomonas vaginalis / Mycoplasma genitalium testing on the Aus Diagnostics platform (currently performed in NVRL).

SUSTAINABILITY

The NMH laboratory has signed up to Irish Green Labs network in December 2023

Plans for 2024:

- Seek 'My Green Lab' certification
- Improving recycling and reduce packaging
- Save energy by increasing temperatures of cryogenic freezers from -80 °C to -70 °C.

Damian Lally, Laboratory Manager.

Figure 1: Laboratory Requests Summary 2015 to 2023

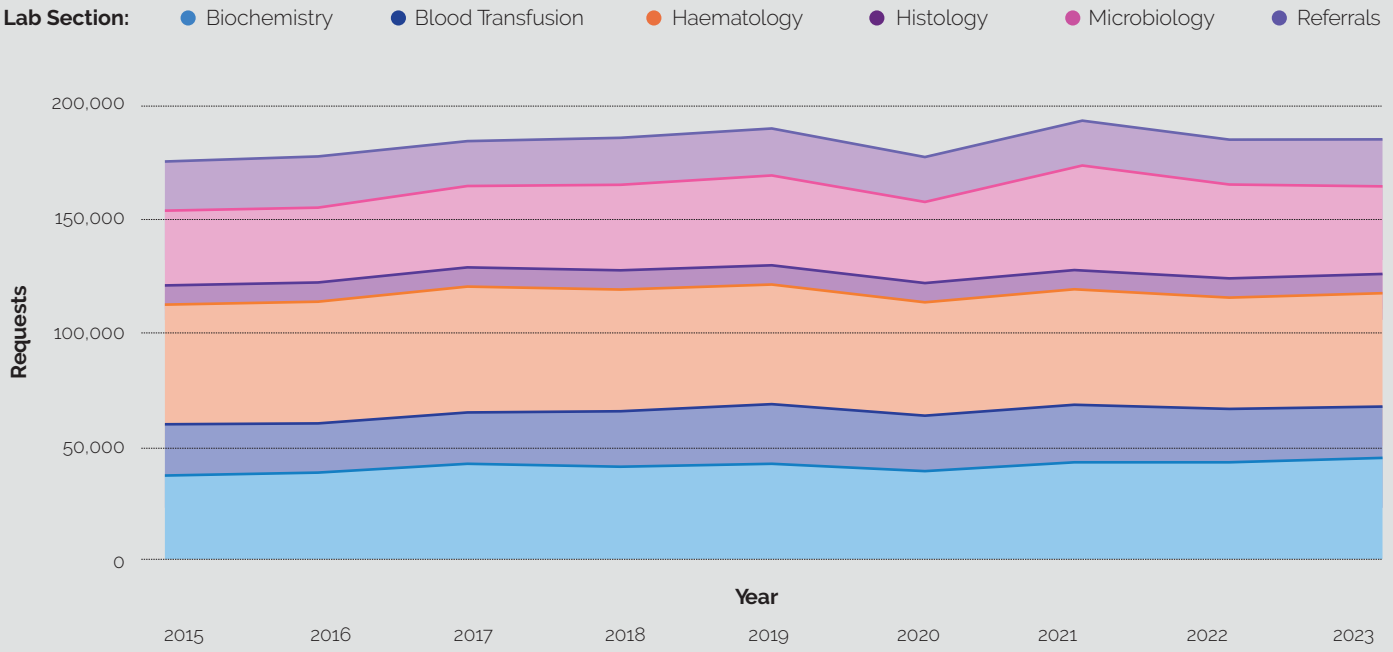


Figure 2: Change in workload (%) 2023 vs 2022

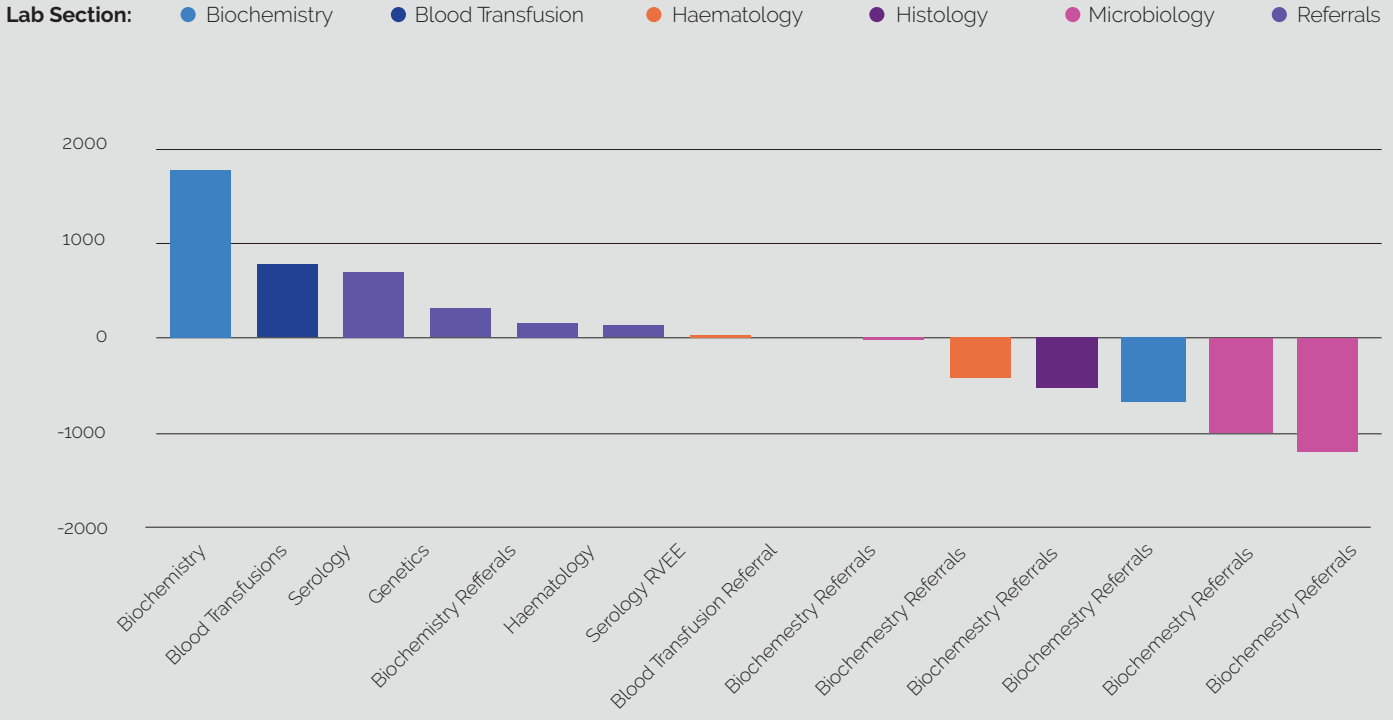
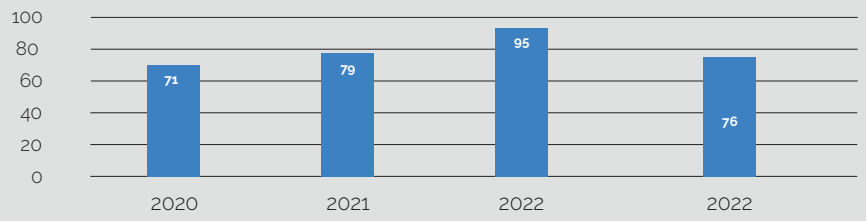


Figure 3: Audits performed in the Department of Pathology and Laboratory Medicine 2023



Pre-Assessment Clinic

The Pre-Assessment clinic was set up in June 2020, it has greatly improved the efficiency of the theatre service and reduced the number of patients who fail to attend for surgery. The clinic is led by two Clinical Nurse/Midwife Manager's with support from an Anaesthetic Consultant and an Anaesthetic Registrar. A second Clinical Nurse Manager was appointed in March 2023 due to increasing workload and numbers attending this clinic. The clinic is open five days per week and also facilitates a Consultant–led Obstetric High Risk Anaesthetic clinic on Tuesday and Wednesday afternoons.

The objective of the pre-assessment clinic is to enhance the clinical care of patients by conducting timely assessments, identifying health issues and arranging prompt treatment. This leads to a reduction of cancellations, efficient use of time and resources on day of surgery as well as an enhanced patient experience.

Timing of appointments is arranged by theatre administrative staff after electronic referral is received and date for surgery is confirmed. A virtual appointment for all patients ideally 4-6 weeks pre-operatively. Virtual appointment pathway for all patients commenced on 10th July 2023 to order to triage patients appropriately for their surgical journey and avoid unnecessary visits to hospital.

The virtual appointment is a phone call by a nurse/midwife to a patient to obtain medical, surgical, social, physical health and a medication review. This appointment facilitates a general discussion about their procedure and peri-operative journey. Advice and education is given on adequate preparation for their surgery and planning for the post-operative period. Patient information leaflets regarding surgery and general health information in preparation for surgery is sent to patient to support education. An assessment is made by the nurse at this appointment as to whether the patient needs follow up in the clinic, require additional testing, or to liaise with the multidisciplinary team to ensure that they are suitable and prepared for surgery. This virtual appointment may complete the pre-assessment for some patients, others will go on to have a follow up appointment in the clinic.

> "THE OBJECTIVE OF THE PRE-ASSESSMENT CLINIC IS TO ENHANCE THE CLINICAL CARE OF PATIENTS BY CONDUCTING TIMELY ASSESSMENTS, IDENTIFYING HEALTH ISSUES AND ARRANGING PROMPT TREATMENT. THIS LEADS TO A REDUCTION OF CANCELLATIONS, EFFICIENT USE OF TIME AND RESOURCES ON DAY OF SURGERY AS WELL AS AN ENHANCED PATIENT EXPERIENCE".

At the in-person follow up appointments, general checks of blood pressure, temperature, pulse oxygen saturation and respirations are performed. Height and weight are recorded giving a BMI score. Blood tests, infection control screening and ECG tracing of the heart is performed as indicated. The patient can be reviewed by an Anaesthetist as required at this appointment. The telephone assessment and pre-operative advice is revised and any additional patient concerns are dealt with. Appointments in the pre-assessment clinic prepare patients for day of surgery admission, allay patient concerns, provide education and promote patient satisfaction. This ultimately reduces their hospital stay, promote recovery and reduce associated healthcare resources.

1,715 patients were assessed in 2023, this is broken down to 1039 in-person appointments and 817 virtual appointments.

The table below gives the monthly activity of the clinic for the year 2023.

The clinic anticipates that the number of virtual appointments will rise for 2024 with the aim of reducing in-person appointments. Over the next year plans to expand the service to include pre-assessment of all LSCS with anaesthetic support. Also, there will be a focus on the development of patient information to promote health and wellness for the peri-operative journey. We will collaborate with other departments in the hospital to create this material.

Niamh Carney, CMM2 Pre-assessment Clinic.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
In Person	132	114	123	111	137	125	78	43	62	45	62	40	1039
Virtual	0	0	0	0	0	0	111	136	112	109	120	88	817
Total attendance	**132**	**114**	**123**	**111**	**137**	**125**	**189**	**179**	**174**	**154**	**160**	**117**	**1715**

Central Decontamination Unit

Jayson Flores, CDU Technician.

The Central Decontamination Unit (CDU) is the area within the Hospital that all Reusable Invasive Medical Devices (RIMD) are re-processed. The aim of the CDU is to prevent a Healthcare Associated Infection (HAI) and to ensure patient equipment is available and sterile for use at all times. This is achieved through the following processes: Cleaning, Disinfection and Sterilisation. We are committed to the highest level of quality in the decontamination of RIMD. Sterility assured re-processing of RIMD is achieved through adherence with Decontamination Policies, Procedures and Guidelines.

All decontamination equipment is serviced and validated quarterly by external suitably qualified engineers, and all validation reports are sent to an external Authorised Decontamination Expert for review and sign off.

Activity levels continue to remain high year on year. In total 33,764 packs were sterilised in 2023, which is a slight increase from 2022.

Totals per month are illustrated in the graph at the end of this chapter.

Quality/Risk

Following a more robust method of reporting, the total non-conformances for the year represented 1.9% of production: each non-conformance is recorded and a follow up action taken.

Chemical and Manual Handling Risk Assessments are reviewed annually.

Audits

The following audits took place during the year:

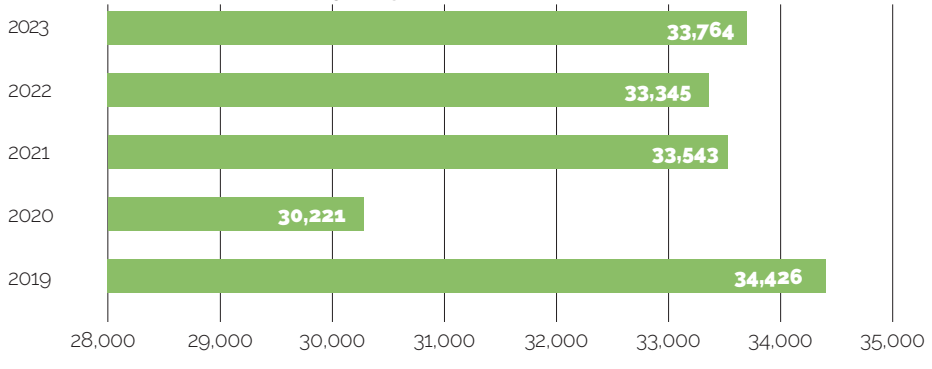
- Daily Quality Control Audit
- Quarterly Environmental Monitoring
- Weekly Automatic Control Test
- Monthly Key Performance Indicators
- Monthly Hygiene Audits

Infection Control

Four Environmental Monitoring audits took place in 2023 where we sampled the air and surfaces from all rooms and water from the reverse osmosis water treatment unit. The results were discussed at the quarterly Infection Control meetings and any remedial actions identified were implemented.

Pam Hutchings, CDU Manager/ Decontamination Lead.

Number of Packs Processed 2019-2023



Quality, Risk and Patient Safety

The Quality, Risk and Patient Safety Department plays a vital role in ensuring the highest standards of care and safety within our hospital. Year 2023 saw significant changes within the Department. Our former Director of QRPS, Dr Luke Feeney, retired in 2022 and Dr Anne Twomey was subsequently appointed to the post in late 2022. In 2023, Clare O'Dwyer, our Clinical Risk Manager for over 15 years, retired after more than thirty years of dedicated service to NMH. She will be missed. We were delighted to welcome two new Quality and Patient Safety Advisors, Fidelma Martin (CMM2) and Kim Ryan (CMM2) to the team in late 2023.

Our Department's goal is to cultivate a comprehensive culture within our organisation that is centred on quality, safety and patient well-being. We work with frontline staff to promote a culture of person-centred care, fostering an environment where continuous improvement is seen as an integral part of our philosophy.

Service Overview

The Quality, Risk and Patient Safety Department manages all clinical incidents reported by the hospital in accordance with the HSE's Clinical Incident Management Framework 2020 and ensures that the hospital complies with the relevant regulatory and reporting requirements set out by the State Claims Agency (SCA), HSE and HIQA.

While the day-to-day management of risk remains the responsibility of all staff, our Department works collaboratively with staff and managers to assist them in undertaking risk analyses in their local areas. The Department has developed a comprehensive clinical risk management system that works across all hospital departments. We provide guidance to staff as to when a risk may need to be escalated to the Clinical Governance Executive Committee.

The Department ensures all patient feedback (comments, compliments and complaints) is acknowledged, reviewed and acted upon according to the HSE Complaints Process "Your Service, Your Say". It reviews information derived from the NMH and NICU Patient Experience Surveys (both paper and on-line versions) that are provided to all our families to complete.

Learning from clinical incidents, risk assessments and patient feedback are what drives many quality improvements (QI) initiatives undertaken in our hospital each year. The Department keeps a record of all such QI initiatives and monitors their progress in terms of implementation. Such work is supported by a centralised QI Register to which all staff have access. Supporting clinical audit is another core function of the Department and our Quality Manager co-ordinates the Clinical Audit Steering Committee. This Committee approves and monitors all clinical audit work undertaken in the hospital, facilitating the sharing and dissemination of information. Audits, once approved by the Committee, are registered on our Audit Management System.

Providing a quality service that is safe and person-centred requires our service to proactively engage with our families and community partners. Apart from improving communication, it allows us to plan a more integrated, co-ordinated and seamless service, one that is informed by our patients' lived experience and the experiences of our colleagues in primary care. Our Quality Manager and Patient Advocacy Officers meet with our Patient Voice Group several times a year, also seeking their assistance throughout the year on any information leaflets/ booklets/poster created with patients in mind. They schedule regular meetings of the GP Liaison Committee (an average of 4 per year) and they co-ordinate the Annual NMH GP Study Day, held every year in November, ensuring that the educational profile of the meeting meets our GPs' needs.

Due to the high risk nature of maternity services, it is imperative that our hospital has appropriate structures and systems in place to maximise patient safety. In clinical care, this is largely achieved by developing clear PPPGs (Polices, Procedures, Protocols and Guidelines) that are reviewed regularly and updated in response to evolving clinical practice and research, reviews of clinical incidents and/or the need to mitigate unacceptable risks. The Q-Pulse Administrators in our Department ensure all current PPPGs are available on Q-Pulse, revised within the agreed timeframe and that previous versions of the PPPG are retained. Training for staff on the use of Q-Pulse is also provided

Staff training and education on all matters pertaining to QRPS falls within the remit of the Department. The QRPS Department provides a core component of the mandatory training that is required for all staff. Currently, members of the Department are attending additional training on Open Disclosure in light of new requirements after the passing of the Patient Safety (Notifiable Incidents and Open Disclosure) Act in 2023. As staff, in general, are availing of more eLearning opportunities, some of our QRPS training content, has been made available to staff on the NMH online learning platform, Totara.

Externally, the Department represents the hospital at the Ireland East Hospital Group (IEHG) Quality and Patient Safety Forum, the Voluntary Healthcare Agencies Risk Management Forum and the Patient Safety Community of the HSE.

Activity

An incident, as defined in the HSE Clinical Incident Management Framework 2000, is an event or circumstance which could have, or did lead to an unintended and/or unnecessary harm. Our Department reviews all clinical incidents reported, and as per the framework, classifies these incidents into three groups. Category 1 incidents are those that are rated as major or extreme in terms of outcome, category 2 incidents are incidents that are rated as moderate and category 3 incidents are those that are rated as minor or negligible. All incidents are recorded on the National Incident Management System, a system jointly managed by the HSE and the State Claims Agency.

The level of review mandated for any incident depends on its category. In NMH, all category 3 events are reviewed by one of our QPS Advisors and are usually managed at local level. Category 2 incidents warrant a multidisciplinary review. In NMH, these incidents are either delegated to specific specialist review groups (such as the PPH review group for all PPHs ≥1500mls or the OASIS review group for all third and fourth degree tears) or they are reviewed by the Clinical Incident Review Group (CIRG). This latter group, chaired by the Clinical Director, with representation from senior medical and midwifery staff across all Departments, now meets on a monthly basis (fortnightly prior to September) to discuss cases and to determine if any recommendations are required. Category 1 events are reviewed at our monthly Mortality and Morbidity meetings unless the incident meets the criteria to be reviewed at our Woman and Neonate Serious Incident Management Forum (WaN SIMF). This group was established in late 2022 and is chaired by the Master, with representation from senior medical and midwifery staff, and it meets on a monthly basis. It reviews all serious reportable events and serious clinical incidents such as uterine rupture, unplanned peripartum hysterectomy etc. to determine if a further review (either concise or comprehensive) is required.

While much learning can be achieved from reviewing incidents, the focus of the CIRG group has moved from solely looking at individual cases to analysing aggregate data so that we can identify important trends in care. To grapple with the inherent variation in our data, we are increasingly presenting our data in the form of run charts as opposed to traditional summary statistics that ignore time order. Run charts allow us to better determine if we are providing consistent and acceptable levels of care or if improvements are needed. In order to drive change, it is imperative that staff at the frontline have access to this type of real-time data in order to gauge how they are doing and to see if any changes in practice that have been introduced are leading to the desired effect.

Table 1 outlines the number of incidents reported to the QRPS Department in 2023. There was an overall increase of 17% in the number of incidents reported this year. Apart from encouraging more incident reporting, the Department now conducts monthly cross-checks with our Electronic Health Record (MN-CMS) to ensure complete ascertainment of all incidents. The significant increase noted in the number of category 1 incidents reported in 2023 is largely explained by stipulating that a clinical incident form is completed on all deaths of infants ≥500g and/or ≥24wks.

In 2023, of the 16 incidents reviewed at SIMF, none were felt to warrant a more in-depth review. One comprehensive review was undertaken in early 2023 for an incident that occurred in Dec 2022, completing in May 2023. Key learnings from incidents are shared with the relevant staff. Before an incident can be formally closed, all of the recommendations arising from a CIRG and/or WaN SIMF review have to be actioned (or, at a minimum, partially actioned). In terms of clinical governance, CIRG and WaN SIMF report to the Clinical Governance Executive Committee.

In late 2023, the HSE launched its 2023 Enterprise
Risk Management Policy building on its previous Risk Management Policy of 2017. The Department has now embarked on a body of work to update the current clinical Risk Register to reflect the changes outlined in the updated policy. We hope to report of the outcome of this endeavour next year.

A summary of patient feedback received is outlined in Table 2. The reduction in formal complaints received by our Department was offset by an increase in the number of complaints that were managed at local level, which is due to the training that our staff have received in complaints management at mandatory training study days, and is gratifying to see. From our Patient Feedback Surveys, we report on a quarterly basis our Net Promotor Score (NPS), a measure that gauges patient satisfaction with our service. Last year, the overall NPS for our Hospital was 78 and for our Domino Service was 74. The hospital goal is an NPS score of ≥40 and a score of ≥70 is considered excellent.

Quality Safety Walk rounds continued in 2023 and were undertaken in four areas of the hospital namely, the Physiotherapy Department, the Radiology and MRI Department, the Laboratory and the Staff Changing Area.

Claims Management relating to clinical incidents is the remit of our Claims Co-ordinator. Our Claims Co-ordinator works with the staff in the State Claims Agency from initial notification of a new legal claim through to the final resolution of cases. As of Dec 31, 2023, our Claims Co-ordinator is managing a total of 84 active claims. During the year, 15 claims were settled and 12 new proceedings were issued.

As of Dec 31, 2023, there are still 11 Coroner's Cases awaiting a final decision. Of 3 coroner's post-mortems directed in 2023, two are still awaiting a final decision by the coroner. The other case was certified without the need for an inquest. No coroner's case was heard in 2023.

Successes and Achievements

- Streamlining of the Clinical Incident Review process with serious incidents now being reviewed by WaN SIMF
- Greater emphasis at CIRG on monitoring trends in incidents using Run Charts to display clinical incidents over time. See Figure 1 for an example of a run chart on OASIS in nulliparous woman delivering by SVD after the introduction of a perineal care package.
- Establishing the Clinical Audit Steering Committee and the introduction of a master Audit Scheduler.
- Resources were allocated to the Department to appoint a Q-Pulse Administrator (this post is currently shared).
- In recognition of the significant impact that serious clinical incidents have on staff, our Department now facilitates team

debriefs after any major clinical incident, irrespective of outcome. This new service has been very well received by our staff.
- Sharing of learnings with frontline staff. The Department produces regular QRPS educational bullets focusing on different aspects of Quality and Patient Safety.
- The hospital had an announced HIQA inspection in May 2023. The final report received in Dec 2023 reflected very well on the hospital. We were compliant with 7 national standards, substantially compliant with 2 national standards and partially compliant with 2 national standards (the latter two pertaining to workforce and infrastructure). The hospital submitted a detailed workforce action plan, which included staff training and education, along with a list of projects for improvements to infrastructure that are underway or in process. These action plans formed part of the final report.

Plans for 2024

- To improve reporting structures by updating our Clinical Incident Management System with a view to producing live dashboards.
- To finalise the updating of the Risk Management System in line with the HSE Enterprise Risk Management Policy
- To identify QI champions in each of our clinical areas so our Department can better support frontline staff and ensure staff are kept updated.
- To share trends and themes in incident reporting with the relevant staff by circulating monthly "Learning from Incident Reports"
- To encourage the reporting of clinical incidents, particularly by our medical and allied health professional staff, who, historically, report clinical incidents very infrequently.

I would like to thank all the staff in the Department for their hard work and commitment over the past year in the face of considerable change. I would also like to thank the staff who report incidents and, more importantly, take time to review these incidents. Finally, I would like to acknowledge the work that is undertaken by staff every day in actively managing the risks that are an inherent part of the care we provide. Your contribution is vital to ensuring our hospital continues to provide a high quality and safe service.

Dr Anne Twomey, QRPS Director.

Orla & Patrick Jordan with their newborn baby daughter Méabh. Image: Aoife O'Connor Photography

Table 1: Clinical Incidents reported to the QRPS Department

	2022	2023	% Difference
Category 1 incidents	**26**	**64**	**+146%**
discussed at SIMF*		11	
discussed at M&M		53	
Category 2 incidents	**797**	**854**	**+7%**
Obstetrics/Gynaecology		145	
Anaesthesia/theatre		104	
Neonatology		85	
OASIs		99	
PPH		421	
Category 3 Incidents	**566**	**716**	**+27%**
Total	**1389**	**1634**	**+18%**

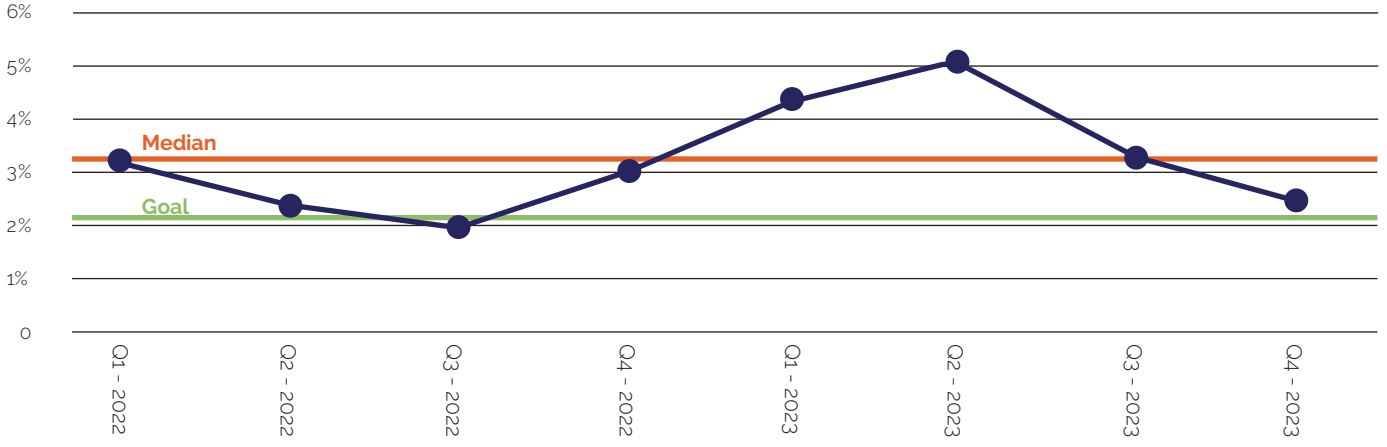
**In 2023, 16 cases were discussed at SIMF of which 8 were SREs (serious reportable events), 3 were other Category 1 incidents similar to those mentioned above and 5 were Category 2 incidents which were deemed by CIRG to warrant SIMF review.*

Table 2: Patient Feedback 2022-2023

	2022	2023	% Difference
Complaints received	**139**	**93**	**-33%**
Written Complaints*			
Stage 2	114	73	-36%
Stage 1	25	20	-20%
General Feedback	6	22	+266%
Information Requests	12	11	-8%
Debriefs	2	9	+350%
Complaints closed			
% closed within 30 days	94%	97%	+3%
Complaints locally resolved at Unit/ Department/Service level	**27**	**43**	**+59%**
Patient Meetings held	**10**	**15**	**+30%**
Requests to IEHG for further review	4	5	
Requests to Ombudsman or further review	0	2	

**Stage 2 complaints are formally investigated and the patient is provided with a written response. Stage 1 complaints are resolved at the point of contact with the QRPS Department.*

Figure 1: Run Chart of OASIS in Nulliparous Woman delivering by SVD



Health & Safety

The National Maternity Hospital Health and Safety Department is dedicated to ensuring the safety, health and wellbeing of all our patients, staff, visitors and contractors. This is achieved by promoting and facilitating a safety conscious culture to ensure a safe environment and place of work in line with best practice.

Five hundred and twenty-four individuals attended thirty-three Health and Safety Training sessions during the year which were favourably received by all. The induction program for staff is further complemented by the mandatory study day which is open to both clinical and non-clinical staff. This runs online regularly throughout the year and ensures all staff have an opportunity to refresh their health, safety and emergency procedures awareness. In addition, online training is also available for staff, through Totara and HSELand.

Fire Safety Consultants provided training for thirty-seven of our fire wardens in 2023. The hospital liaises closely with the Dublin Fire Brigade. Staff were involved in the main mock evacuation conducted in September. Ski sled and patient hoist awareness training is also provided during manual handling and two new videos were created for training purposes.

There were thirty-five Manual Handling training sessions conducted by the manual handling team in 2023 and three hundred and sixty-one staff were recorded as attending. Of these twenty-three were scheduled and eleven additional sessions were organised to facilitate individual key departments/cohorts of staff.

Contractor Management remains a key focus area especially in light of recent developments. Additional minor capital projects undertaken improve site facilities and patient safety in the long term. These additional construction projects require the effective implementation of contractor management controls. Managers in control of the workplace and our contractors work together to ensure safe systems of work are in place and are working effectively.

> "WE ARE COMMITTED TO THE HIGHEST LEVEL OF QUALITY IN THE DECONTAMINATION OF RIMD. STERILITY ASSURED RE-PROCESSING OF RIMD IS ACHIEVED THROUGH ADHERENCE WITH DECONTAMINATION POLICIES, PROCEDURES AND GUIDELINES".

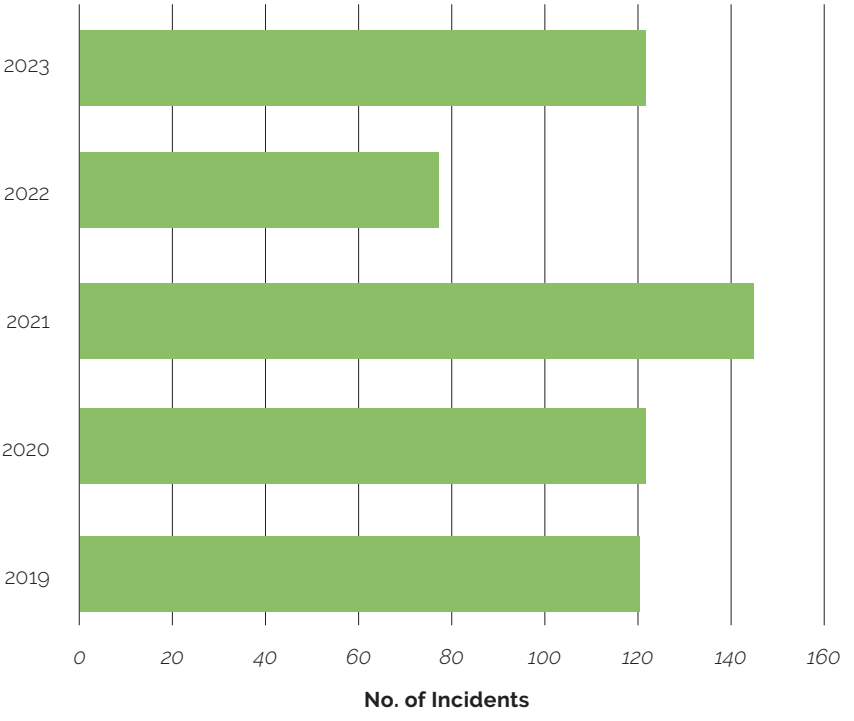
The Annual Accident Review was conducted and there were a number of initiatives during the year to raise staff awareness of these hazards. All staff are engaged in working proactively with managing these risks to ensure a safe working environment for all our patients, visitors and staff.

Sincere thanks to all employees proactively working as a team to improve the safety culture within the Hospital. Thanks also to all members of the Quality, Risk, Health and Safety Committee which met on twelve occasions during 2023 and thanks also to the Safety Representatives, manual handling trainers and Lead Worker Representatives, Support Services Teams, Nursing & Midwifery and clinical teams.

While 2023 has been a busy year it is likely that 2024 will be more challenging given the current facilities constraints, scheduled projects and financial environment.

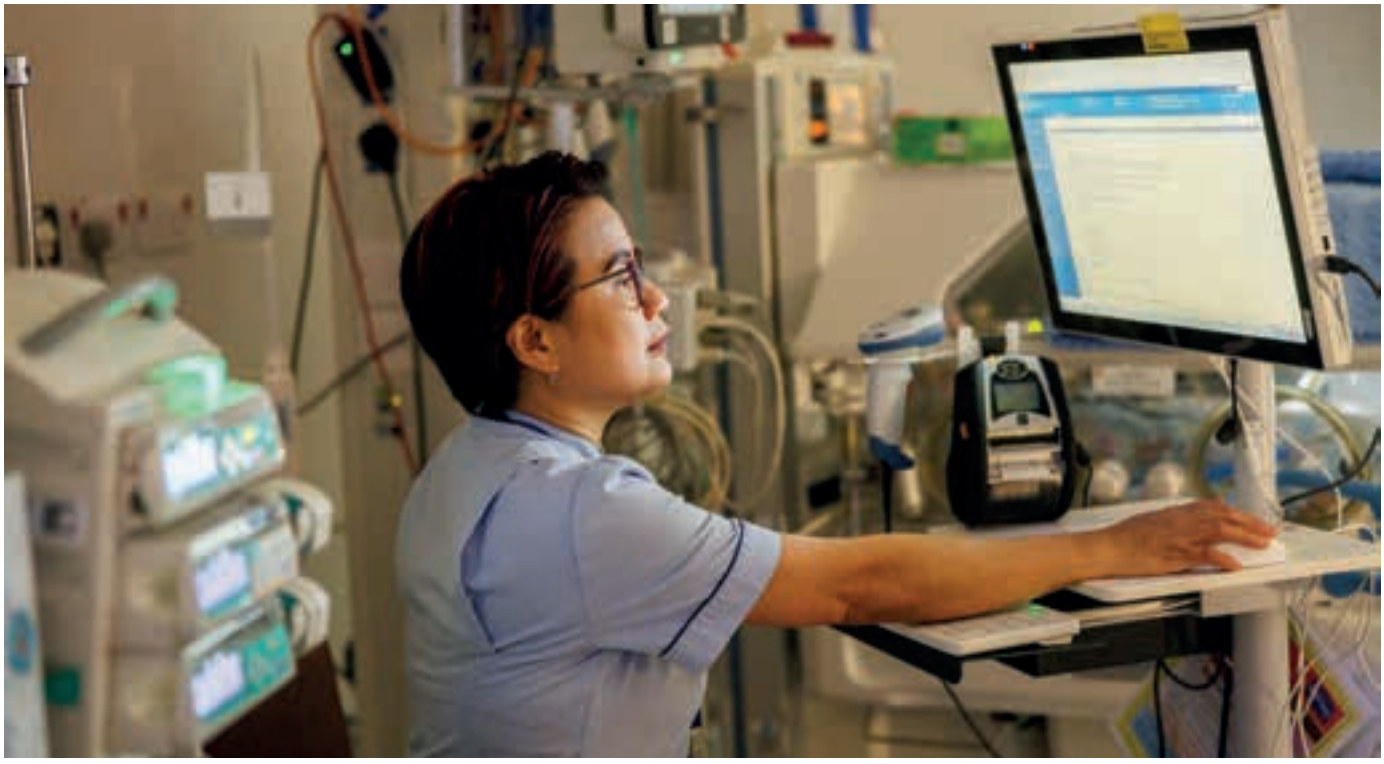
Martin Creagh, Health & Safety Officer.

Health & Safety Incidents 2019-2023



* 2022 lower figure possibly due to underreporting on a new system introduced in this year.

The Maternal and Newborn Clinical Management System



Jennifer Doyle, CNM1 Neonatal Intensive Care Unit.

The Maternal and Newborn Clinical Management System (MN-CMS) is an Electronic Health Record (EHR) in use in The National Maternity Hospital (NMH). It covers maternity, newborn and neonatology, gynaecology and colposcopy services thereby providing a paperless EHR for the whole hospital. The ethos of MN-CMS is 'patient centred, clinically led' and the NMH MN-CMS team work closely with the HSE National MN-CMS Team, eHealth Ireland and the other participating maternity hospitals to support, manage and upgrade the system.

Apart from patient documentation, MN-CMS enables medication prescribing and administration, ordering and viewing laboratory investigations and electronic communication with general practitioners. It also interfaces with other specialist systems such as fetal cardiotochograms (Fetalink), theatre (Periop Doc) and anaesthetic records (SN Anaesthesia), ultrasound (Viewpoint), colposcopy (Mediscan) and the Patient Management System (IPMS).

The MN-CMS team, along with Oracle Cerner Application Managed Services (AMS), supports the 24-hour availability and usage of the system and ensures the most efficient use of the electronic chart so both the patient and healthcare providers get the maximum benefit from the system. The MN-CMS team provide support by phone and email as well as the in-person support which are all essential parts of any large electronic system. Pager, phone and 'at the elbow' support is available Monday to Friday, while phone support, provided by Oracle Cerner AMS, is available out of hours. The local team also provide cover outside of core working hours for any planned downtime or upgrade to the system.

Creating and maintaining user access as well as user training, are essential functions of the Local Back Office (LBO) in NMH. MNCMS training is provided in the computer training facility. All new and returning users require training and in 2023 the team trained 327 staff, including doctors, midwives, nurses, health and social care professionals, students, healthcare assistants, ICT and administration staff to use MN-CMS. The system uses role based access, providing users with access only to parts of the chart that are required to fulfil their role. The majority of staff receive face to face training on-site and attend in-person for between 2 and 6 hours, depending on their role. Users who are given read-only access for the purposes of research are required to complete a module on HSELand.

One of the great challenges of healthcare is routine data collection and a concise but complete record of care. This

documentation serves as an integral measure of care quality, and improvement of documentation is a primary focus of the MN-CMS LBO. Throughout 2023, the team have undertaken detailed daily and monthly data quality monitoring in order to set and maintain good quality standards of documentation.

In 2023, the team continued to release MN-CMS Dashboards in collaboration with Fionnuala Byrne (Information Officer). The MN-CMS Dashboard is released monthly and shows information about births in the hospital for the previous month, including total births, Mode of Delivery, Patient Category and various other interesting pieces of information. The Dashboard is emailed to all staff and is displayed on information screens in the hospital for all to see. Feedback has been very positive, especially from non-clinical staff members who previously may not have had access to such information.

As information collected in MN-CMS is shared more widely, the benefits of electronic data capture and dissemination are being realised. In 2023 the team also released additional information dashboards focusing on specific areas within the hospital, such as the Emergency Department and DOMINO care in conjunction with those departments, as well as dashboards comparing how our care has changed over the years.

In 2023, the Team were involved in a number of successful upgrades to the system. Following the major disruption caused by a cyberattack on the HSE in 2021 a decision was made nationally to move MN-CMS from HSE data centres in Dublin to a Remote Hosted Option (RHO) in Sweden. This was completed successfully in August 2023 following months of detailed planning. At the same time a full upgrade to the latest code version of Powerchart was carried out as well as an upgrade to the 724 backup system. In December 2023, Fetalink was also upgraded to the latest available version and a recent survey found that clinical staff in NMH were happy with the enhancements and found it more straightforward to use.

In the latter part of 2023, following the system upgrades, we have able to facilitate new requests for changes and updates to MN-CMS and look forward to being able to facilitate greater enhancements in the future, dependent on clinical priorities, national agreement and available resources. The MN-CMS Team continues to work with all areas of the hospital to get the most from our electronic health record. Our aim is to support and guide users on every aspect of MN-CMS to achieve the maximum benefit for our patients and us all as healthcare providers.

Sive Cassidy, CMM3 MN-CMS Team Manager.

Dr Alaa Bou Kalfouni, Obstetrics and Gynaecolgy SHO

Benny Madden. Image: Amanda Hatton Photography.

Occupational Health

The Occupational Health department provides a proactive service to all staff to maintain good health and wellbeing within the workplace. The key services provided include: pre-employment health assessment, sickness absences review, vaccinations, management of occupational bodily fluid exposure (OBE's), pregnancy risk assessment, skin surveillance, occupation injuries, ergonomics assessment and staff support and counselling.

In 2023 we bid a fond farewell to Carmel Flaherty and wished her all the best in her retirement. The Occupational Health department now comprises of one full time Occupational Health Nurse and a Consultant Occupational Health physician that has one session per week as well as administrative support.

During the year, the Occupational Health Department presented a plan to the Executive Management Team who agreed to fund a portable Inus S bone densitometer. This machine is a screening test which helps to detect bone mineral loss at an early stage as it measures bone mineral density of the Calcaneus by ultrasound. Osteoporosis is often referred to as a "silent disease" because it progresses without symptoms until a fracture occurs. Therefore, early detection through bone density testing is crucial for managing and treating osteoporosis. First appointments were offered to all female staff over 50 years and then to all remaining females. The uptake has been fantastic with 166 female staff availing of the screening from June to December 2023. It is planned to roll screening out to include men in early Summer 2024.

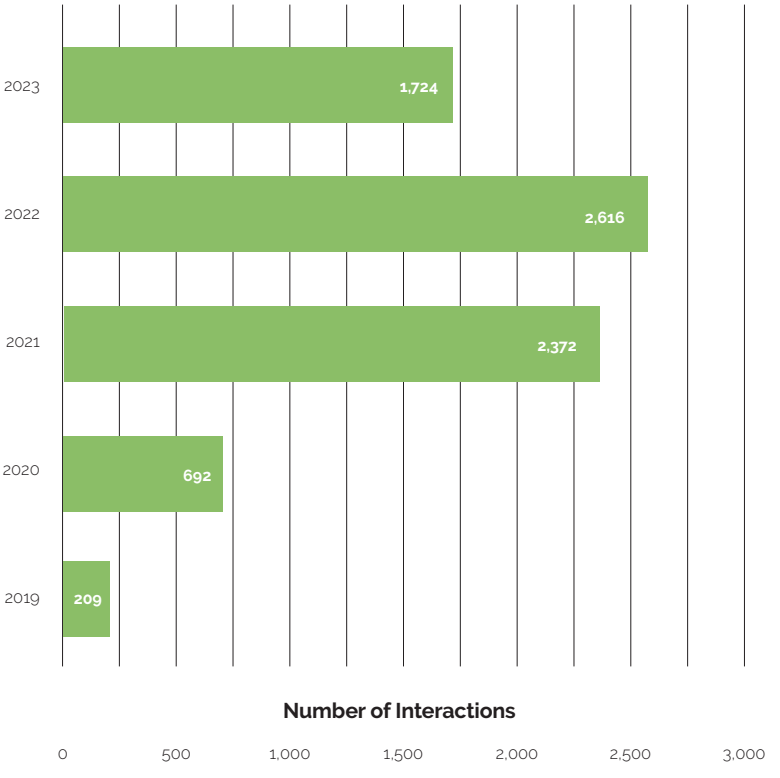
It was another busy year with COVID-19 and Flu campaigns. The Department were delighted to assist the Ireland East Hospital Group (IEHG) in the production of the staff vaccination video for Healthcare workers. NMH staff were offered a joint Flu and COVID-19 vaccination on a two day roll out in October and weekly flu clinics thereafter. While the uptake for Covid was low at 50%, the flu campaign continues to run with 76.3% of staff being vaccinated. There was a significant reduction in the number of staff who tested positive for COVID-19 with 312 staff members reporting a positive test.

Consultations with the Occupational Health Physician continues to rise with 268 staff seen. The VHI Employee Assistance Programme assists a large number of staff who have challenges both professionally and personally in their lives. Night worker assessments are continued on a yearly basis for staff whose number of hours worked at night is equal to or exceeds 50% of their annual working time.

The Department provides a confidential service where staff can talk if they need support or help to guide them in the right direction in the hope that this help contributes to keeping staff at work.

Jennifer Fitz-Gerald CMM2.
Occupational Health.

Occupational Health Interactions



Infection Surveillance, Prevention and Control

Service Overview & Activity

The Infection Prevention and Control team work alongside other healthcare staff to ensure that all measures are taken to reduce and prevent healthcare associated infection through education, audit, surveillance, consultation, posters, leaflets and the development of policies/ guidelines. Antimicrobial stewardship and minimising development of antimicrobial resistance is a key goal of the IPC team.

The team contributes to multi-disciplinary committees including Infection Prevention and Control Committee, Drug & Therapeutics Committee, Quality Risk & Patient Safety Committee, Decontamination Steering Group, Hygiene Committee, Sepsis & IMEWS Committee, NMH Audit Steering committee, and Clinical Governance Executive.

CLINICAL OUTCOMES

Sepsis and Septic Shock (maternity and gynaecology)

- Six women developed maternal sepsis in 2023 (0.89 per 1000 mothers delivered compared to 1.03 in 2022, 0.52 in 2021, 0.83 in 2020 and 0.51 in 2019).
- One woman developed septic shock and five had sepsis.
- Two infections were antenatal at 20 and 32 weeks gestation. Four were postnatal following deliveries at 11, 15, 39 and 39 weeks. All women survived.
- One gynaecology patient developed septic shock.
- The organisms identified were *E. coli* (4) and one each of Group A *Streptococcus,* Group B *Streptococcus* and no organism identified. Only two were associated with blood stream infection.

Blood Stream Infection (BSI) and Meningitis:

- The rate of neonatal early onset group B streptococcal (GBS) disease was 0.87 per 1000 births in 2023 compared to 0.0 in 2022, 0.38 in 2021, and 0.27 in 2020. The rate of all laboratory confirmed organisms causing neonatal early-onset sepsis was 1.45 per 1000 births in 2023, compared to a rate of 0.57 in 2022 and 0.64 in 2021.
- There were 12 neonatal healthcareassociated, late-onset blood stream infections in 2023. Two coagulase negative *Staphylococcus*, 2 *Staphylococcus aureus,* 7 gram negative bacilli and 1 *Bacillus cereus.*
- Eight infants were diagnosed with meningitis in 2023; 2 early-onset Group B *Streptococcus* (including one transferred to NMH postnatally), with the remaining 6 being late-onset: *Enterobacter cloacae, K.pneumoniae*, *Serratia* marcescens, HSV-2, Enterovirus and one culture / PCR negative.
- There were 23 BSI in adult patients in 2023, 6 of which occurred during the antenatal period, 3 intrapartum, 12 postnatal and 2 gynae patients. The organisms identified were *E.coli* (8), *S.aureus* (4), *Streptococcus* species (3), Group B *Streptococcus* (2) and one each of Group A *Streptococcus*, Anaerobe, *Enterococcus faecalis*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and polymicrobial. Seven (30%) were Healthcare associated infections (HCAI)

Nokbukhosi Sibindi, Student Healthcare Assistant.

Device Associated Infection, Surgical Site Infection and Clostridium difficile

- The central line associated blood stream infection (CLA-BSI) rate in the NICU was 2.02 per 1000 catheter days in 2023 compared to 2.14 in 2022 and 5.37 in 2021.
- The ventilator associated pneumonia rate in the NICU was 1.5 per 1000 ventilator days in 2023 compared to a rate of 1.93 in 2022 and 4.62 in 2021.
- The CS-SSI was 5.57% in 2023; 4.95% following elective CS and 6.12% following emergency CS. This compares to 5.77% in 2022; 4.86% following elective CS and 6.53% following emergency CS.
- There was 1 case of *Clostridium difficile* infection in 2023, which was a community acquired case.

Multi-Drug Resistant Organisms (MDRO)

- There were no MRSA bloodstream infections (BSI) in 2023.
- MRSA was detected in 11 infants. Of these 11 infants, 2 were acquired in a postnatal ward. Three were acquired in the NICU and 6 were colonised on admission to NICU.
- MRSA was detected in 57 adult patients. Fifteen developed an MRSA infection \and 42 patients were colonised. Fifty one were community-acquired MRSA and 6 were HCAI.
- There were 2,849 CPE screens in 2023. There were 0 CPE cases identified in 2023.
- There was no vancomycin-resistant *Enterococcus* (VRE) BSI in 2023. VRE was detected in 3 adult patients. There was no VRE detected in neonatal patients.
- In the neonatal unit, 16 infants were colonised with gentamicin resistant gram negative bacilli and 16 were colonised with ESBL. Four infants were colonised with gram negative bacilli that were both ESBL and gentamicin resistant.

Respiratory viruses

- There were 11 cases of Influenza in 2023; 8 Influenza A and 3 Influenza B, all in adult patients.
- There were 5 cases of RSV in 2023; 4 in adult patients and 1 neonate in NICU.
- Fourteen patients tested positive for SARS-CoV-2 in 2023; all were adults.

IPC Audits and Education

- Hand Hygiene
- 348 of clinical staff (73%) were certified for hand hygiene training. 50% of clinical staff are certified for infection control training for nurses and midwives online module. Hand hygiene audits results:
- Q1-2: 98% compliance with process. 11% non-compliance with a barrier to hand hygiene (e.g. wrist and hand jewellery, nail varnish).
- Q3-4: 96% compliance with process. 10% non-compliance with a barrier to hand hygiene.
- The HPSC have not been collating information on alcohol gel consumption, however internal monitoring of consumption has continued. Total alcohol gel use for 2023 was 1569L, compared to 2022 = 1821L, 2021 = 2562L; 2020 = 3466L; 2019 = 1893L.
- Compliance rate for Peripheral Vascular Catheter care bundle is 96% and for Urinary Catheter care bundle is 88%.
- Annual Audits:
- GBS Flagging: 1,059 patients were positive for GBS. 54% of them were flagged in electronic health record. The remainder were flagged by infection control team.
- GBS Risk Factor audit: outpatient clinic compliance with GBS risk factor assessment for Q1 and Q2 shows high compliance (over 96%). The audit was continued in Q3-4 for by community team and privately: community team compliance was >95% and compliance for private patients was 46%. GBS positivity rate in women previously positive = 39%.
- GBS Flagging for Penicillin Allergy: 6-month audit of practice shows 75% compliance, GBS positivity rate for those screened is 22% of which 23% were clindamycin resistant.
- MRSA Audit: 89% of pregnant patients identified as a Healthcare Worker were screened for MRSA before delivery. 3.7% of those tested were positive for MRSA and 8 who reached to 36 weeks' gestation were decolonised before delivery.
- Chlamydia Screening Audit in antenatal women <25 years' old at booking: 107 women were eligible to be tested in Q1, 96% were tested and 7% were positive.
- CPE Risk Factor Audit: 391 charts of the patients attending community and private services were randomly audited for CPE risk at the booking assessment. 85% of the patients were assessed for CPE risk.

Antimicrobial Stewardship

- Antimicrobial consumption data for Q1-2 2023 showed a slight increase in consumption at 35.57 DDD/100 BDU, compared to 33.4 in 2022 and 32.3 in 2021. An increase in co-amoxiclav use was audited in March, showing 93% (43/46) of prescriptions were in line with NMH guidelines.
- Prevalence of antimicrobial prescribing during the ECDC Point Prevalence Survey in May 2023 was 13.5% overall; 22.8% among Obstetric & Gynaecology patients and 4.3% among neonatal patients. Forty-one percent of antibiotics prescribed were for prophylactic indications and 59% were for treatment of infection.
- A total of 29 patients (7 adults and 22 neonates) were prescribed carbapenems, 91% were approved by Microbiology or were in line with NMH antimicrobial guidelines.

Achievements

- Participate in ECDC point prevalence survey (PPS) on healthcare associated infection and antimicrobial use.
- Introduction of routine antenatal screening for hepatitis C.
- Introduction of routine group B Streptococcal screening for antenatal women who are allergic to penicillin.
- Trial of post-caesarean section dressing removal at 24 hours.
- Local trainers are trained for the wound management and dressing application. As a result, there was a 14% reduction in purchasing and costs of PICO dressings.
- Commence patient enrolment in 'Pyrexia in Labour Infection Calculator' (PILIC) study
- Expand HSE hand hygiene auditors in NMH.
- Maintain microbiology laboratory ISO15189 accreditation and extension to scope for molecular assays.
- Submit business case for second NMH/

RVEEH consultant microbiologist to HSE and NWIHP.
- Contribution to National guidelines which were published on Group B Streptococcus and Varicella-Zoster in pregnancy.

Service Development Plans for 2024

- Maintain surveillance, audits, education, training, policies, guidelines, leaflet updates and antibiotic newsletters. Continue multi-disciplinary PROMPT education and training.
- Focus on sustainability in infection control, laboratory and pharmacy.
- Participate in national PPS on antimicrobial use.
- Publish research and audit regarding MDRO in NICU and GBS screening in penicillin allergic women.
- Second consultant microbiologist for NMH/RVEEH.
- Introduction of ICNet.

The Infection Control Team.

Emily Flynn, CMM3 Postnatal Services and Shideh Kiafer, Assistant Director of Midwifery & Nursing - Infection Prevention and Control promoting Sepsis Awareness in the Hospital.

Haemovigilance

The main aim of Haemovigilance is to promote safe and effective transfusion practice in our hospital. Compliance with Blood Transfusion quality standards is a key performance indicator of transfusion safety for patients. The haemovigilance service participates within the overall Laboratory Quality Management system. There is one whole time Haemovigilance Officer (HVO) and 0.4 Consultant Haematologist providing the Haemovigilance service.

Successes / Achievements / Reports

- INAB (ISO 15189) Accreditation achieved for 2023 (*Audits/Quality/Guidelines/ Education/Reporting/CPD)*
- 100% Traceability of blood components and products as required by European Blood Directive 2002/98/EC
- 9 reports were filed to National Haemovigilance Office (NHO) in 2023 (1 *Mandatory, 2 non-mandatory and 6 WBIT)*
- The root cause analysis of adverse events and implementation of preventative action contributes to safety within the blood transfusion process.
- Continued participation in internal multidisciplinary clinical team in the implementation of the new National Transfusion Advisory Group (NTAG) guidelines for life threatening haemorrhage
- Attendance and participation at various pertinent Blood Transfusion (BTC & PPH/Anti-D) and quality (QMT & QA) committees
- The HVO and Consultant Haematologist participated in education events as part of CPD

Mandatory Haemovigilance Education Programme

- Use of on line E-Learning system "Totara" for NCHD Induction was successfully continued in 2023
- Use of Blood Transfusion E-Learning *(learnpronhs/uk*) system and "Totara" was continued for Midwifery/Nursing staff and Midwifery Students.
- Delivery of targeted haemovigilance education to other staff groups (MCA & Portering staff) involved in the transfusion chain process

Grateful thanks is expressed for receipt of the necessary data on completion of haemovigilance education by staff from HR, Midwifery/Nursing Education, Administration and Portering services departments. This data is used to assess compliance rates. The use of Totara system has greatly contributed to monitoring of haemovigilance education compliance rates

Specific Blood track training for blood track users (L1) is continued with thanks to local L2 Trainers (CSF/Senior Midwifery staff) (train the trainer- L2 trained by HVO). Staff are enabled on the database by HVO which allows access to the controlled blood fridges.

Plans for 2024

- Maintain current Haemovigilance service
- To maintain ISO15189 (INAB Accreditation)
- Various policies to be reviewed/written and updated
- To continue participation in the National Transfusion Advisory Committee (NTAG) working groups (Patient Blood Management, Life threatening Haemorrhage, Neonatal Components, Regional Transfusion Committees, Haemovigilance Special interest group (HV/SIG)
- To promote the appropriate use of blood and blood products and to continue participation in implementation of the NTAG guidelines
- Continue to monitor transfusion practice
- Continue to monitor mandatory haemovigilance education compliance

Bridget Carew, Haemovigilance Officer.

Clinical Nutrition and Dietetics

The Neonatal Dietetics Team.

The Department of Clinical Nutrition and Dietetics provides a dietetic service for patients under the care of maternity, neonatal and gynaecology services. This service is delivered using telehealth and in-person consultation and classes as appropriate; and incorporates relevant technology to support a range of nutritional interventions for women and babies.

Following multiple vacancies associated with widespread staff shortages in the profession, we were delighted to welcome Sinéad O'Donovan, Aoife Gill and Vanessa Winn, all graduates from the MSc Dietetics program, to the Department in March, as well as Lorna O'Connor who joined in a part time capacity. Jessica Calderia took up a role with the neonatal team and Sarah Browne was a welcome addition as Dietetic Assistant which is a support role for clinical services that has proved invaluable. This year we also welcomed for the first time, 2 UCD BSc Human Nutrition students for their 10-month practice placement from September (Katie Caffrey and Mia Grehan).

Maternity, Diabetes, Gynaecology

Diabetes in pregnancy (Catherine Chambers, Sinead O'Donovan, Lorna O'Connor) is a priority for our service. GDM (n= 525) remains the majority reason for dietetic referral with 64% requiring individualised dietetic care. An audit of the service was conducted (due to be published in 2024) and all parameters compared well with key performance indicators. 81 women with pre-existing diabetes of all kinds were seen by the multi-disciplinary team. Specialist dietitian input is vital for women using CSII (insulin pumps) and continuous glucose monitors and we are very fortunate to retain expertise in this area. Catherine Chambers continues to chair the Diabetes Special Interest Group of the Irish Nutrition and Dietetic Institute. Further data is presented in the Diabetes report.

Hyperemesis (Sarah Louise Killeen, Aoife Gill) is a significant reason for referral (n= 375) and dietetic support for these women continues through the IRIS Day Clinic, with research ongoing. A new weekly support class for women with Nausea and Vomiting of Pregnancy was introduced successfully and is being evaluated.

Nutritional risk requiring complex care (Laura Harrington, Sarah Louise Killeen, Sinead Curran) included women post bariatric surgery, Inflammatory Bowel Disease, eating disorders and inborn errors of metabolism. An audit published showed that rate of pregnancies post bariatric surgery is increasing and obesity remains a factor in this group.

Teenagers (Aoife Gill) are also higher risk for nutritional deficiency in pregnancy. The Daisy Clinic for young mothers' service evaluation shows that 51% had 2 or more dietetic assessments. 94% of those seen made at least one positive change to nutritional intake or vitamin/mineral supplementation. Average intakes of key nutrients were universally lower than recommended at the first assessment,

and while still less than optimal, had increased after dietetic advice. Service to the adolescent gynaecology clinic was also reinstated as a priority.

Other innovations included the introduction of a pre-class nutrition screening tool for women attending the high BMI group (Tus Maith) and a health promotion campaign using social media, infographics and posters in the outpatient public department, Holles Clinic. The dietetic assistant (Sarah Browne) has been invaluable in implementing these, and work produced with nutrition student Mia Grehan will continue in 2024.

Sarah Louise Killeen led UCD student dietitian clinical training in the Department in addition to a busy caseload and continued to support and engage in dietetic research. We were also pleased to contribute to dietetic Continuing Professional Development, co-ordinating a joint conference with our UK colleagues from the British Dietetic Association Maternal & Fertility Group and Maternity Dietitians Ireland. We prioritised addressing clinic attendance rates across the teams with positive results such as increased attendance and more appropriate followup after classes and clinics. and our administrator Helen McCrimmon was essential in helping to achieve this and to safely navigating services through a lot of change. A notable increase in outpatients activity reflects increased referrals overall, but is significantly influenced by increased referrals for hyperemesis, where women are referred at an early gestation and have multiple reviews. The use of telehealth for this patient group has helped to increase access and allowed the service to scale up once staff were available.

The positive outcomes and service improvements achieved during a challenging year is a testament both to the high calibre of newly recruited junior staff and to the capability and generosity of senior dietitian and admin staff in the department.

Neonatology

The focus of dietetic attention remained babies with complex nutritional needs in the neonatal unit, the majority of which were born very preterm or very low birth weight, as well as those with other clinical issues affecting nutrition, feeding or growth. The total number of admissions to the neonatal unit was 1202 (1028 first time admissions).

The dietetic team works as part of the neonatal multidisciplinary team and we were delighted to see this team expand with the appointment of our first Occupational Therapist (OT), Aoife Tonge, in April. This together with the appointment of our first Speech and Language Therapist (SLT),

Zelda Green, the previous November, has facilitated greater interdisciplinary working and the introduction of some joint multidisciplinary out-patient consults, as well as a new class for parents led jointly by SLT, OT and Dietetics. This class takes place monthly online. From June to December, 6 classes took place at which 38 parents attended and the feedback has been positive. We were also delighted to welcome the first lactation specialist dedicated to the neonatal service, Ramita Dangol Neonatal Lactation (CMM2). Ramita brings years of experience from her role as a nurse in the neonatal unit and is a great asset in our efforts to support maternal milk provision and breastfeeding. The year ended with the retirement of Hilda Wall, Clinical Nurse Manager for the Neonatal Service. Hilda was a friend and supporter of the dietetic service and we wish her well in her next chapter.

Our PRIME/PRIME-B initiatives supporting maternal milk provision and breastfeeding continued and saw further improvements. This was supported by renewed attention on kangaroo mother care with celebrations taking place to mark International Kangaroo Care Day on May 15th. To mark National Breastfeeding Week in October, we launched our PRIME-B 'Feeding Journey' poster, to provide consistent guidance on transitioning from tube feeding to breastfeeding. Our PRIME initiative was also the beneficiary of a generous grant from the NMH Foundation to support staff education, and 6 neonatal staff were nominated to attend the UNICEF Embedding Baby Friendly in Neonatal Care 2-day online course (course date January 2024).

In our audit of nutrition and growth amongst babies born very preterm or VLBW (n=121), for the cohort of inborn babies (n=114) who received feeds (n=111), the number who received maternal milk remained at 99% (n=110). For those who received oral feeds (n=80), the number who breastfed during their time in the neonatal unit increased to 74% (n=59) from 72% in 2022. We remain grateful to the wider multidisciplinary team as well as mothers and their families for their efforts to achieve this for the babies who benefit and their families.

Our use of parenteral nutrition (PN) was consistent, with 733 orders through the year. Individualised PN (IPN) as a proportion of all PN ordered, remained low at 5% (n=35 orders), with standardised PN (SPN) accounting for the remaining 95% (n=698 orders). Thank you to our Pharmacy colleagues for this data.

We continue to be actively involved in the multidisciplinary ACoRN (Allied Care of at Risk Newborn) programme which focuses on efforts to optimise the development of babies in the neonatal unit and post discharge, details of which are published in the Neonatology chapter. Dietetic involvement includes participation in a development focused weekly ward round and post-discharge follow-up clinic. We were also delighted to be involved in the first Health and Social Care Professionals in Neonatal Care Ireland Networking and Study Day in May.

Further details of nutrition and growth amongst babies in the Neonatal Unit are included in the Annual Neonatal Clinical Report published separately.

Other Activities

Education: BSc Midwifery (UCD), MSc Nutrition & Dietetics (UCD), Public Health Nurse training (NMH).

Professional Groups: Diabetes Interest Group (INDI), Neonatal Dietitians Ireland Group, Maternity Dietitians Ireland, Irish Nutrition and Dietetic Institute.

Representation on National Groups: HSE Neonatal and Paediatric Parenteral Nutrition Advisory Group (RMC), HSE Infant Feeding Oversight Group (RMC), HSE Dietitian Prescribing Technical Working Group (RMC), HSE Neonatal and Paediatric Parenteral Nutrition Procurement Group (RMC), HSE Clinical Guidelines Expert Advisory Group (SC), HSE Neonatal Expert Advisory Group (RMC).

Contribution to Hospital Committees: Healthy Ireland Group (SC, HMC), Strategy Group (SC), Infant Feeding Steering Committee (RMC), Infant Feeding Committee (RMC), Nutrition and Hydration Committee (SC, RMC), Partnership Committee (SC), Audit Steering Group (SC) and Children First Committee (SC). Our administrator (HMC) coordinates health promotion campaigns for the NMH Healthy Ireland program.

Roberta McCarthy, Manager (Neonatology), Head of Department 2023.

Sinéad Curran, Manager (Maternity, Diabetes, Gynaecology).

Maternity Dietician Acivity

Location	2022	2023
Obstetrics	665	567
Gynaecology	4134	4771
Total	**4799**	**5338***

**Not including antenatal Nutrition in Pregnancy classes n=373 Data source: MN-CMS*

Primary Reason for Consult	Total
Post CS or Laparotomy	1
Enternal/parenteral nutrition support	2
Endometriosis	2
Multiples (twins or higher)	3
Polycystic ovary syndrome PCOS	13
Restricted diet e.g. vegan	15
Eating disorder	15
Therapeutic diet e.g. PKU, IBD	26
Anaemia/Other nutritional deficiency	27
Adolescent	31
Bariatric surgery	47
Diabetes Mellitus Type 1 or 2	58
Low BMI/poor weight gain/weight loss	84
Other reason	108*
Gestational diabetes consult for review	166*
Obesity/excessive weight gain	317
Hyperemesis gravidarum	375
Uncatogorized consults	*165*
Total	**1455**

Individual patients referred via classes/groups

Gestitational diabetes	359
Antenatal class	373
Total	**732**

Total individual patients treated:2187
*total gestational diabetes = 525

Neontatal Dietitian Activity

	2020	2021	2022	2023
Babies with birth weight ≤1.5 kg or ≤31/40 weeks gestation[a]	665	665	567	665
Inpatient dietician contacts[b]	4134	4134	4771	4134
Outpatient dietician contacts[b]	665	665	567	665

Number of unique patients seen in 2023: Inpatients, n=243b, Outpatients, n=112b. Each unique patient involves multiple dietitian contacts.
The outpatient non-attendance rate reported was 11.1%b.
Data source: adietetic records - based on year of birth, bMN-CMS, ciPMS. There have been ongoing challenges ensuring accuracy of data reported from iPMS and MN-CMS and so data regarding patient contacts should be interpreted with this in mind. We continue to work on ensuring the reliability of future data.

Clinical Engineering

The Department of Clinical Engineering continue to provide a designated, coordinated approach to the management of Medical Devices and Equipment (MDE) throughout the NMH and to advise the Executive Management Team (EMT) on all matters related to the standardised coordinated management of MDE within the NMH. The Department's objective is to ensure a safe, high quality service for its service users to enable better outcomes for patients.

There was further Hospital and HSE investment in MDE during the year with the procurement of 255 new and replacement medical devices, bringing the total number of in-service devices to 2,979. This was a combination of the Hospital's equipment replacement program, expansion of services and emergency replacement of irreparable MDEs. The Department continues to maintain its high level of in-house preventative maintenance with 60% of MDE maintained internally, a slight reduction on previous years. The Department's adoption of the HSE guidelines and policies with respect to MDE continues, as the national implementation of the Medical Devices/ Equipment Management Policy is rolled out, including the introduction of the new Medical Device Regulations.

With the ongoing infrastructural projects of the Hospital on the current site, and its proposed co-location to St Vincent's University Hospital campus at Elm Park, Clinical Engineering participated on several committees providing advice on all aspects on the management of MDE including risk assessment and cost effectiveness. Some projects include a neonatal ventilator clinical evaluation in NICU and the standardisation of drug libraries throughout the hospital. Other committees and projects that required Departmental involvement include the major upgrade work to the National Maternal Newborn Clinical Management System (MN-CMS), the implementation of the NMH Strategic Plan and participation in the development of National Tenders on behalf of the HSE. The Department also represents the Hospital on several external committees such as the BEAI (Biomedical / Clinical Engineering Association of Ireland) and the Health and Social Care Professions Expert Group and has continued its close working relationship with the National Neonatal Transport Program. Department members continue to keep up to date professionally in order to maintain an appropriate level of competence by participating in many internal and external lectures / presentations and by furthering their academic qualifications in order to up skill due to the rapidly evolving nature of medical technology and the ever increasing risks in cyber security.

Mr. Vasanth Pillai resigned from the Department to take up a new role and we wish him well and thank him for his work over the years. I would like to take this opportunity to thank Mr Oleg Shrolik and Mr Mark Power for their ongoing commitment and dedication to the NMH and its service users.

Eoghan Hayden,
Head of Clinical Engineering.

Cuán Brewster.

Medical Social Work

The Medical Social Work (MSW) Department began 2023 with 326 active social work cases and received a further 870 referrals throughout the year. Total workload for 2023 = 1,196 cases. Medical Social Workers had 3,687 direct patient contacts throughout 2023. The 'Breakdown of Workload' is in the table below with 'Other' referring to many areas of work including crisis pregnancy, relationship difficulties, poor attendance for antenatal care, teen pregnancy, limited supports, mental health, bereavement.

Greater Accessibility

The Department offers a very accessible service for patients and their families, opening twelve hours a day, six days a week. We are available to support hospital staff in dealing with high risk situations that can arise outside of normal working hours.

Breakdown of Workload	
Neonatal Unit Admission	158
Fetal Anomaly Diagnosis	109
Domestic Violence	92
Substance Use	99
Inclusion Health	199
Other	539
Total	**1196**
Direct Patient Contacts	**3687**

The largest volume of referrals to the MSW Department continues to be for families with babies admitted to the Neonatal Intensive Care Unit (NICU) and families with an antenatal diagnosis of a fetal anomaly. The Medical Social Worker completes a psychosocial assessment and offers intensive emotional support to these families. Inclusion Health is the next largest area of work which comprises homeless families, Ukrainian families and other families seeking international protection.

Support to Maternity Units of the Ireland East Hospital Group (IEHG)

A MSW service was offered to 77 families who attended from maternity units within the IEHG: Wexford (31), Mullingar (27) and Kilkenny (19). In 2023, the Department continued to offer formal support and supervision to the MSW maternity service in Mullingar. The Department was involved in the successful recruitment of a Senior Medical Social Worker for Kilkenny and Wexford maternity units and offered formal support and supervision to these services. This service enables continuity of care for families whose care is transferred to the NMH. The IEHG referrals are mainly for parents whose babies are admitted to the (NICU) or to families who receive an antenatal diagnosis of a fetal anomaly. They often require not only intensive emotional support, but also significant practical support when travelling from a long distance for hospital care.

High Risk Caseloads

The MSW Department offers a specialist service to women experiencing domestic violence in pregnancy. In 2023, 92 women and their children were supported by this service. The Department made 31 new referrals to Tusla due to child protection concerns. Of the 92 families, 5 were already known to Tusla due to the level of risk to their children, 17 experienced homelessness as a direct result of their experience of domestic violence and Gardaí were actively involved in supporting 24 of these families in relation to their experiences of violence. The MSW supported 19 families in accessing refuge accommodation. The MSW Department continued to work closely with the Women's Aid Maternity Project and referred 37 women directly to their Outreach Support Service. The MSW Department offers a specialist service for women with substance use issues and in 2023, 99 women were supported by this service. Due to the level of risk, 31 of these families were referred to Tusla. Children from 6 families were listed on the Child Protection Notification System. Women received intensive support and as a result most babies were discharged home with their parents with a robust safety plan in place however 6 babies were placed in alternative care.

Inclusion Health

In 2023, the Department offered a specialist service to 199 women who met the criteria for support in relation to 'Inclusion Health'. This is an initiative that commenced in 2021 across the three Dublin Maternity Hospitals to develop and recognise the impact of homelessness and inadequate housing on children's health. The aim is to deliver an integrated health care approach to homeless pregnant women. Of the 199 women, 60 were homeless, 31 were at risk of homelessness, 30 were Ukrainian families and 57 were seeking International Protection from other countries. The Inclusion Health Service developed a number of new initiatives during 2023 including a Baby Massage Class for Ukrainian families, and a series of Traveller Maternal Health Sessions.

Laura Harrington,
Head Medical Social Worker.

Molly Murphy feeding one of her twin baby girls Elsie and Fiadh with Jessica Caldeira, Neonatal Dietitian, Sarah Lovely, Medical Social Worker and Montserrat Corderroura, NICU Senior Pharmacist in the Neonatal Intensive Care Unit.

Pharmacy

Louise Delany (Antimicrobial Pharmacist) and Sarah Mohamed (Pharmacy Intern) on World Antibiotic Awareness Day.

The overall aim of the Pharmacy Department is to ensure safe, effective and economical use of medicines and to support education, training and research in The NMH. The Department purchases, supplies and dispenses medicines for inpatient and outpatient use. Pharmacists, pharmacy technicians and an intern pharmacist work together to ensure patients receive the highest quality pharmaceutical care possible. Pharmacists provide a clinical pharmacy service for the NICU, maternal medicines clinic and antimicrobial stewardship and where possible the gynaecology, antenatal and postnatal wards, ensuring safe and effective use of medications. This is achieved through review of patients' charts using the Maternal Newborn Clinical Management System (MN-CMS) along with the performance of medication history checks and reconciliation at ward level. Pharmacists play a central role in the continuing development and optimisation of the electronic prescribing functionality of the MN-CMS, devoting a significant amount of resources to the provision of induction and ongoing training for clinical staff.

The Pharmacist Executive Manager, in liaison with pharmacy, nursing, medical and financial colleagues, plays a central role in the work of the hospital's Drugs and Therapeutics committee, optimising governance of the introduction of new medicines as well as the safe and economic use of all medicines, within a medicines budget. This includes audit and monitoring of new medicines and related technologies and monitoring of prescribing against evidence based indications. The Pharmacist Executive Manager has clinical management responsibility, ensuring a high standard of hospital pharmacy services aligned to best international practice, ensuring innovation, adopting national initiatives and guidelines, producing demonstrable improvements in service delivery.

The NMH Medication Safety Programme is led by the Chief II Pharmacist who chairs the multidisciplinary Medication Safety Committee. This committee is responsible for developing and implementing a 5-year strategy, with an aligned annual workplan. Activities include dissemination of medication safety newsletters and alerts, oversight of medication-related audits, policies and quality improvement initiatives, along with an extensive programme of induction and ongoing training for all clinicians. Senior pharmacists are members of multi-disciplinary teams in the Maternal Medicial Clinic, NICU and Infection Control.

Pharmacy Activity

Pharmacy dispensed 24,923 medications in 2023, an increase of 7% on the previous year, and in-line with recent overall trends. The level of clinical pharmacy activity was maintained at a level similar to previous years as per the table below. Pharmacy staff, coordinated by senior pharmacist Benedetta Soldati, continue to contribute to evidence based research through dispensing clinical trial drugs for the PrePOP and IronMother clinical trials. In May, HIQA performed an announced inspection which included Medication Safety as one of the primary themes. Led by the pharmacy department and medication safety committee, HIQA found the NMH to be either compliant or substantially complaint in all standards that contained reference to medication safety.

A new clinical pharmacy service for patients coming through the pre-assessment clinic (PAC) was established whereby clinical pharmacists receive PAC referrals based on defined criteria in order to conduct timely medication history checks, reconcile any issues in advance and provide recommendations for perioperative use of medications. It has continued to be a challenge to provide a regular medicines history and reconciliation service in general antenatal, gynaecology and postnatal areas. To address this, senior pharmacy technician

Rosie Kirwan began an accredited training course in order to establish a Medicines Management Pharmacy Technician service in clinical areas. It is expected this accreditation will be complete in 2024 and will allow for a more comprehensive medication history taking and reconciliation service.

Over 200 medication monographs for both NICU and Obs/Gynae services were reviewed and uploaded to the NMH Guides App for the first time, with NICU Pharmacist Montserrat Corderroura winning 3rd prize in the annual RISE symposium for her work on the NICU drug formulary. In April, Áine Toher was recruited to the role of Chief 2 Pharmacist (Deputy Manager) responsible for Medication Safety, Informatics and Training/Education. Her senior pharmacist post was not backfilled. For the third year running the department provided an eight-month training programme for a 5th year pharmacy intern Sarah Mohamed.

DRUGS AND THERAPEUTICS / MEDICATION SAFETY COMMITTEES

Medication Safety

The Medication Safety Programme continued to implement the 5-year (2019-2023) medication safety strategy through the aligned annual work plan.
Eleven medication safety or medication-related audits were conducted in 2023:
Review of Prescribing Practices when Treating Vulvovaginal Candidiasis
Wound Infection Readmission Rates in OVD following Prophylactic Antibiotics

Safe Storage of Medication in Clinical Areas
Re-audit of Documentation on MN-CMS of

Booking and Current Weights in Obstetric Patients
Re-audit of Red Tasks on MN-CMS Drug Chart for Postnatal AnalgesiaAssessment of Appropriate Management of Iron Deficiency Anaemia (IDA) in Pregnancy in Patients Receiving Intravenous Iron Therapy

European Centre for Disease Control Point Prevalence Survey of Antibiotic Use

Medication Reconciliation Audit in Obstetric Patients

Awareness of Local Anaesthetic Systemic Toxicity among NMH Staff

Registered midwife/nurse prescribing VTE assessment documentation and compliance audit using the MEG app VTE audit tool

Classroom based medication safety training was reintroduced in January 2023. Medication safety training was delivered using a combination of learning formats such as HSELand courses, MN-CMS classroom training, NCHD induction training and HR co-ordinated classroom-based mandatory training,

Twelve quality improvement projects were performed: Storage of Refrigerated Medicinal Products;

Revamp of Theatre Medication Storage Area; Pharmacy Pre-assessment Clinic Referrals; Medicines Management Pharmaceutical Technician Service; Re-introduction of Classroom-based Medication Safety Training; Adult IV Drug Administration Monographs on NMH Guides; Antibiotic Drug Focused Newsletter; MN-CMS Antenatal Visit (ANV) Shared Care Messaging; Standardisation of Oxytocin and Magnesium Administration Across Clinical Areas; Differentiation of Infusion Pumps for Administration of PN Lipids in NICU; Provision of Long-acting Reversible Contraceptives for NMH Patients;

Standardisation of Neonatal Emergency Trolleys

Medication policies, procedures, protocols, guidelines: 18 new were approve and 36 were updated.

Antimicrobial Stewardship

Antimicrobial consumption figures for the full year 2023 were not available at the time of writing. For 2023 Qs1 and 2, overall consumption was 35.57 DDD/100 BDU*, showing antibiotic consumption figures returning to pre-2020 levels (2019 = 33.12 DDD/100 BDU). (*defined daily doses per 100 bed days used. This is the WHO convention for reporting antibiotic consumption) Prevalence of antimicrobial prescribing during the ECDC Point

Prevalence Survey in 2023 was 13.5%, in line with average antimicrobial prescribing in recent years. A significant proportion of antibiotics prescribed (41%) were for prophylactic indications which is in line with the types of antibiotic protocols utilised within the hospital.

A total of 29 patients (adults and neonates) were prescribed carbapenems, 93% were approved by Microbiology or were in line with NMH antimicrobial guidelines. All antibiotic monographs in both the neonatal drug formulary and the adult IV drug administration guideline were reviewed and uploaded to the NMH Guides App

Medication Incident Reporting

The reporting of incidents is of value as the data collected can be analysed to identify trends or patterns in relation to risk, and resulting recommendations for improvement can be shared with frontline staff. 137 medication incident reports were submitted in 2023 compared to 145 in 2022; see figure below. For the first time, the majority of reports were completed by midwifery/nursing staff (51%), with 45% coming from pharmacy staff. A slight increase in the proportion of reports coming from medical staff was observed (4% in 2023 compared to 1% in 2022). There is a need to both raise awareness of the importance of medication incident reporting among medical staff and facilitate ease of reporting. The proportion of incident reports defined as “near miss” dropped to 9% in 2023 compared to 15% in the previous year.

Analysis of incident reports found that:

Incidents most commonly occurred at the point of administration (57%) followed by prescribing (27%), and storage (10%)
‘Dose incorrect’ was the most common reason for a report at 17%, followed by

'administration not recorded' at 11%, 'incorrect storage' at 11%, and timing of administration incorrect at 11%

Antimicrobials accounted for the highest percentage of reports (25%), followed by NSAIDs (20%), tinzaparin (17%), opioids (10%), anti-hypertensives (7%) and Vitamin K (7%) Medication Incident Reports 2019 - 2023

David Fitzgerald, Pharmacist Executive Manager.

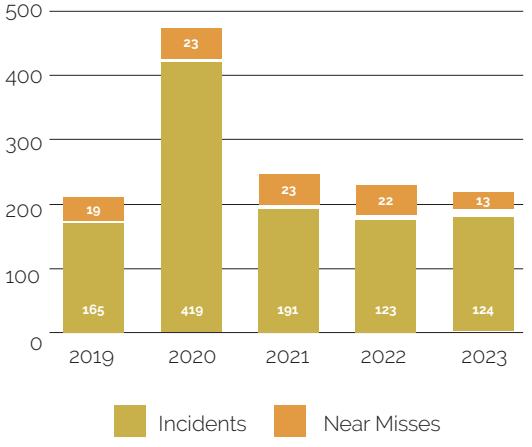
Clinical Pharmacy Reviews Performed	2019	2020	2021	2022	2023
Number	13,548	21,232*	15,134	15,227	15,227

**The figure for clinical pharmacy reviews in 2020 was inflated due to absence of other duties for clinical pharmacists. At the height of the pandemic there was very little scope for projects, quality improvements, audits, and limited changes/updates to policies. Due to this, pharmacists had significantly more time to perform clinical reviews of patients' charts. In addition, a 0.5 WTE pharmacist left in August 2020, bringing the pharmacist staffing down from 5.3 to 4.8 WTE. The figures for 2021 to 2023 represent the normal baseline level of activity.*

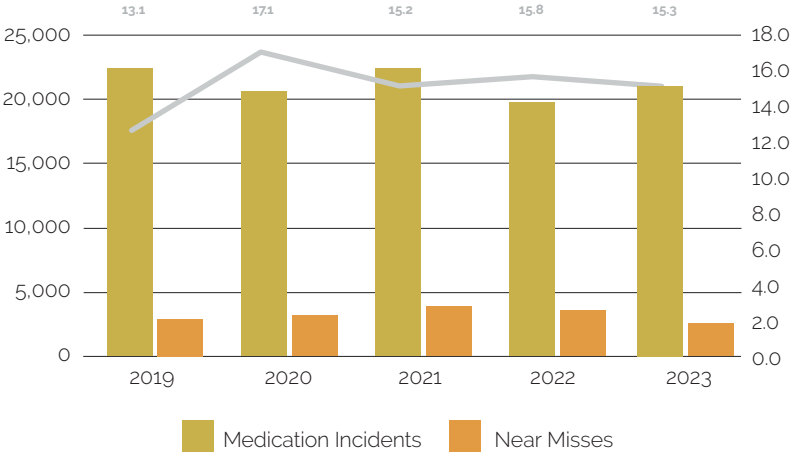
Clinical Phrmacy Activity	Clinical Pharmacy Reviews Performed	Pharmacy Review Activities	Activity Rate per Review (%)
Obstetrics	2,400	537	22
Gynaecology	206	57	28
Obstetrics	2,271	340	15
Gynaecology	171	38	22
Obstetrics	372	94	25
Gynaecology	682	244	37
Obstetrics	5,907	1018	17
Gynaecology	2,284	527	23
Obstetrics	242	38	16
Gynaecology	106	69	65
Total	**14,641**	**2962**	**20**

Medication Incident Reports 2019-2023 by type.

Medication Incidents



Maternity Services, Diabetes in Pregnancy and Gynaecology Services



Physiotherapy

Margaret Deasy, Senior Physiotherapist with Cracy Gonsalves in the Physiotherapy Department.

The Physiotherapy Department had another busy year in 2023 with over 4,364 new patient referrals. Our referral activity remains consistently high since the introduction of MNCMS with a 2-fold increase. This demand drives the shape of our service leading to our increased provision of group classes to try and reach our service users in a timely way. 2023 commenced with us having a whole time equivalent of 7 whole time equivalents (WTE). The recruitment process has been very difficult this year as more posts in Pelvic Health became available nationally. We were successful in recruiting Amanda Olsen and Margaret Deasy to back fill but at a 0.5 WTE deficit. We continue to provide a 0.5 WTE service to the Pelvic Floor Centre located in St. Michael's Hospital which is led by Lesley-Anne Ross who works alongside two NWIPH funded Clinical Specialists Pelvic health physiotherapists.

The Physiotherapy Team provide:

- A referral based Physiotherapy service to all in-patients Monday - Friday.
- An outpatient clinic offering appointments Monday - Friday for musculoskeletal conditions and issues relating to pelvic floor dysfunction for antenatal and postnatal patients
- A neonatal service within the NICU and an out-patient service Monday - Friday.
- Ongoing delivery of the hospital antenatal and postnatal education programmes alongside our NMH colleagues
- Undergraduate placements for UCD Physiotherapy Students.
- A range of education sessions to facilitate early assessment and timely access to physiotherapy services e.g. Pelvic Girdle Pain Class, Pelvic Floor Care Class, Little Feet, Big Steps Class & Healthy Bodies after Birth Class
- A service to the multidisciplinary Pelvic Floor Centre team based in St. Michaels Hospital every Monday and Wednesday.

We continue to initiate all adult referrals with a telehealth assessment to complete all subjective information gathering and dissemination of first line advice and guidance having a library of NMH resources at our disposal.

Department activity is reviewed under 3 headings: Obstetrics, Gynaecology and Neonatology. Patients are seen either as inpatients, on the obstetric (pre and postnatal), gynaecology or neonatal units, or as outpatients in the Physiotherapy Department. Some patients may require just one visit; most will require a number of treatment sessions. Our Physiotherapy Department is located on the 2nd floor of 65 Mount St.

Physiotherapy in Obstetrics

Obstetric Assessment and Treatment
We offer outpatient physiotherapy to all of our obstetric patients as well as providing an inpatient physiotherapy service. We treat a range of musculoskeletal and pelvic floor conditions during pregnancy and postnatally.

As can be seen in the above chart the bulk of our obstetric patients are referred with back and pelvic pain. In order to facilitate reaching these patients in as timely a way as possible, we run virtual Back & Pelvic Care Information Sessions every Friday afternoon. We run a monthly virtual Pregnancy Wellbeing Class focusing on physical care during pregnancy on the 2nd Friday of every month. We also run a weekly virtual postnatal class every Friday morning entitled Health Bodies After Birth Class, that is available to postnatal Mothers. The attendance at these classes has surpassed

the numbers we reached when they were held in-person.

Physiotherapy in Gynaecology

We run an outpatient gynaecology physiotherapy clinic treating patients with pelvic floor dysfunction. We also review those inpatients admitted for major gynae surgery. We run a virtual Pelvic Health Class as a first-line for all triaged referrals to the Urogynae clinic to improve our timely reach to women referred to this service.

Physiotherapy in Neonates

As we continued to have a temporary Senior Neonatal Physiotherapist Eithne Lennon to assist with the neonatal outpatient caseload, Clinical Specialist Joanne Egan was able to spend more time working within the NICU. We hope to make that a permanent post in 2024 as it is crucial to the delivery of the service.

Physiotherapy in Education

Lecture RCSI & UCD medical students
Lecture UCD Physiotherapy BSc programme.
Lecture CIME Postnatal Care Masterclass
Lecture PG Diploma Neonatal Nurses
Teaching sessions with Neonatal NCHD's

Judith Nalty, Physiotherapy Manager.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023
Physio Referrals	2331	2686	2500	4116	3836	3370	4148	4010	4364

Clinical Activity

Activity	
New Patient Referrals	4364

New Patients	505

MNCMS Reasons for consult	Obstetric New Patients - 3478	% breakdown
Pelvic Girdle Pain	1552	45%
Other	838	24%
Urinary Incontinence	313	9%
DRAM	130	4%
Coccyx pain	107	3%
OASIS	99	3%
Carpal tunnel syndrome	155	4%
Respiratory	17	-
Pelvic floor pain/ dyspareunia	35	1%
Urinary Urgency	24	1%
Pelvic Organ Prolapse	107	3%
Faecal Incontinence	22	2%
C-section complications	14	-
Thoracic/rib pain	26	1%
Faecal Urgency	12	-
Urinary Retention	9	-
Prev OASIS symptomatic	14	-
Prev OASIS asymptomatic	4	-

	Neonatal Inpatients	Neonatal Outpatients
Neurodevelopmental	152	105
Talipes	24	27
Reduced Upper Limb Mvt	8	8
Clavicular fractures	4	4
Humeral fractures	1	1
Developmental Dysplasia of Hip – requiring Pavlik harness	12	TSH
Other	30	12
Head & Neck Assessment	9	27

	New Gynae Patients - 505	% breakdown
Bladder Dysfunction	153	30%
Bowel Dysfunction	11	2%
Pelvic Floor Dysfunction	86	17%
Prolapse	53	11%
Mesh Complications	24	5%
Routine Post Op Advice	112	22%
Pelvic Pain/Dyspareunia	56	11%
Mobility Assessment	2	-
Respiratory Assessment	3	1%
Previous OASIS	5	1%

Psychosexual Therapy

The Psychosexual Therapy Clinic continues to be very active with referrals being received from General Practitioners and hospitals throughout the country as well as from clinics within the National Maternity Hospital including gynaecology, fertility, post-natal, physiotherapy, menopause, social work, perinatal mental health, adolescent gynaecology, oncology and consultant clinics.

As in previous years, there remains a lengthy waiting list to be seen and a decision was made in 2023 to only accept referrals from the Ireland East Hospital Group, GPs and clinics within the NMH. All other referrals were diverted to www.sextherapists.ie or www.cosrt.org/uk to source a private therapist.

The main concern presenting for women continues to be vaginismus, however there was a noticeable increase in those presenting with dyspareunia and lack of desire.

Also of note was an increase in those being referred with a sexual difficulty post cancer treatment (sixteen referrals) and those that had a history of sexual assault or presented with fear/anxiety/trauma around being sexual (fourteen referrals).

A blended approach to counselling work continued throughout 2023, offering clients the option to attend online or in-person in the clinic.

Trainee Psychosexual Therapist, Corinne Henry-Bezy continued to work with clients under supervision until the end of 2023 and plans were being put in place for another Trainee Psychosexual Therapist to start their placement in 2024.

Lectures to Medical Students continued throughout the year as well as participation in a Gynaecology Update held for Nurses and Midwives in the Coombe where Corinne did a presentation on the use of vaginal trainers for treatment of vaginismus.

Information sessions were also delivered to the Medical Social Work Team and to staff working in the Gynaecology Clinic.

These all remain important in increasing awareness about sexual difficulties and how to best refer them for help.146 new referrals were received in 2023: 99 referrals came from a waiting list from 2022 and 18 cases continued therapy from 2022.

Meg Fitzgerald, Psychosexual Therapist.

Dysfunctions Presenting in 2023	
Female	
Vaginismus	110
Dyspareunia	73
Inhibited Sexual Desire	46
Anorgasmia	12
Persistant genital Arousal	1
Male	
Erectile Dysfunction	10
Unconfirmed	12
Total	**263**

Referral Sources	
Consultant/NMH Staff	112
General Practitioners	85
Other Agencies/Hospitals	52
Self-Enquiries	14
Total	**263**

Referral Sources	
Engaged in weekly/fortnightly therapy or brief intervention	72
Cancelled or did not avail of initial contact	55
Placed on waiting list for 2022	88
Referred to private clinic	20
Referred to external/local PST services	28
Total	**263**

Radiology

Benny Madden. Image: Amanda Hatton Photography.

The Radiology Department at NMH is equipped with a range of stateof-the-art equipment enabling provision of a high quality clinical service delivered by a specialised clinical team and dedicated support team. The department provides diagnostic services to both adults and paediatric patients. It is equipped with general radiography, a fluoroscopy suite, Ultrasound, MRI and a portable x-ray & ultrasound service (adult and neonatal).

In 2023 approximately 7,200 radiology examinations were performed over a range of modalities with a breakdown of circa 1,000 adult examinations and in excess of 6,000 paediatric examinations.

Magnetic Resonance Imaging (MRI) The National Fetal MRI service is based in The National Maternity Hospital and accepts Fetal MRI referrals from the 6 hub hospitals of the Rotunda, Coombe, Galway University, University Maternity Hospital Limerick, Cork University Maternity Hospital and Royal Jubilee Hospital, Belfast along with neonatal MRI referrals.

The MRI neonatal service is constantly growing with exciting changes in our MRI nursing team with the new arrival of Mairead Hughes CMN2 who took up her position within the Department in March. The service will continue to grow into 2024 with the aim of reinstating MRI sedation for our infant patients.

Ultrasound

The National Hip Screening programme performed over 1,700 hip ultrasounds in The NMH during the year.

Portable ultrasound within the NICU continues to be busy with ultrasounds performed daily to help care for our precious tiny patients.

Within the main NMH Fetal Medicine Unit, outpatients are also facilitated for a wide range of ultrasound examinations.

Department updates

In 2023 we had a quality inspection carried out midyear in April 2023 and a HIQA inspection on the 5th December 2023 with report due for publication in 2024, the initial feedback is very favourable overall and the department is very grateful to Ms Una Murphy CSR PACS/RSO for all her work in preparation for this review.

2023 was another busy productive year for the department and we look forward with enthusiasm to further developments in 2024.

Ms Laura Moyles Radiographic Services Manager and Prof Gabrielle Colleran, Head of Department.

Investigation performed on adults	Investigation performed on neonates
HSG & General Radiography	General & Portable radiography
Fluroscopy Studies	Fluroscopy studies: Barium swallow/meal. Contrast enemas
MRI imaging - Fetal and Placental Imaging	Ultrashound imaging
	MRI imaging

Compliance & Data Protection

Compliance

The National Maternity Hospital is a Section 38 hospital and therefore the regulatory environment is complex. Annual compliance reporting is required both to our main funder, the HSE, as well as to the Charities Regulator among other authorities. Compliance and governance are essential elements of the dealings of the Executive Committee (The Board) of the Hospital. Together with staff members, the subcommittees are following compliance and governance issues closely and reporting on a regular basis to the Executive Committee making sure that we are compliant with all relevant rules and regulations.

For the third year, we reported our compliance in relation to the Charities Regulator's Code of Governance. In addition, corporate governance procedures, including Board arrangements and responsibilities, are mapped against the Code of Practice for the Governance of State Bodies and the HSE Code of Governance. Members of the Board are invited annually to participate in refresher seminars on corporate governance issues. External review of governance procedures commenced during the year and a report is due in 2024. A workshop was undertaken with all Board members as part of this process.

In an Annual Compliance Statement, we furnish our compliance status to the HSE in areas such as governance, finance, procurement, risk management, taxation and remuneration. We also report our compliance with the provisions of the Service Level Agreement with the HSE (an extensive document covering services of the Hospital contracted to the HSE).

Data Protection

The Data Protection Officer (DPO) is responsible for implementing and maintaining a Data Protection Management System with a framework for ensuring that the Hospital meets its obligations under the General Data Protection Regulation (GDPR) and associated national legislation. We have a Data Protection Management System in place that is in compliance with GDPR and our staff are 'data privacy/GDPR' aware with knowledge and understanding of how it affects their day-to-day role as well as the need to ensure that data protection is considered in all our planning. During the year an internal audit of the Data Protection function was carried out. No high risks were detected and the four medium ones have been addressed. The most important risk identified was that sufficient resources needed to be put in place; that risk was mitigated by hiring an Assistant DPO during the year.

Patient chart requests

An individual has the right to access any electronic or manual information that the Hospital holds about them. The hospital will provide them with a copy of their personal data held by the Hospital on request free of charge within 30 days from the date the request is made. A system is in place to ensure that all requests are actioned, quality checked and sent out within the 30 days' period allowed by the law. The number of requests have been steady over recent years, with 6% of requests submitted by solicitors on behalf of their clients. During the year we responded to more than 1,100 requests, the majority being from patients requesting information directly. We also started the process of providing all the records digitally to requesters which will be a safer and more cost-effective way of handling the requests.

Training

Staff training is a crucial part of protecting data privacy and is required under GDPR. Data protection training is mandatory for all staff bi-annually, in addition to data protection training for all incoming staff. The data protection training is done online which is the measure put in place to help us comply with the law. In addition, awareness-raising of data protection is an integral part of the induction scheme.

Breaches

Most of the internal data breaches reported are as a result of increased awareness of what constitutes data breaches and the various data protection courses available to staff. NMH staff are well aware of the need for transparency and the need to ensure due process in reporting and in dealing with data breaches. There is an internal on-line system to report data breaches to make it easy and transparent. Last year we had 32 reported data breaches in the Hospital, which is a drop from previous year by 10 breaches. Significant breaches are reported to the Data Protection Commission and reviewed and if need be, internal practices are improved to minimise future breaches.

Carl Alfvag,
Compliance and Operations Manager.

Hospital Inpatient Enquiry

Niamh Esser, Student Midwife with Sorcha Madigan and her newborn baby son Marcus Carey.

The HIPE system collects information on hospital day cases and inpatient activities in Ireland. The HIPE system and associated coding will determine the invoicing and future budget of the hospital.

In 2023, there were a total of 17,297 discharges recorded on HIPE. HIPE staff review the electronic patient record and extract principal diagnosis and procedures. Medical classification codes are then assigned as per ICD-10-AM 10th Edition or Turbo Coder (e-book). A principal diagnosis and up to 29 additional diagnosis as well as a principle procedure and up to 19 additional procedures. These are then grouped into a DRG (Diagnostic Related Group) which categorises patients into groups based on clinical similarities and resource consumption. They are then exported monthly to the Healthcare Pricing Office (HPO) with a strict 30 day deadline. The hospital budget will be set based on agreed/commissioned Activity Based Funding target levels and monies will only be provided when activity is carried out and invoiced i.e. coded. See table below for 2023.

Liz Mahon, HIPE Co-ordinator.

Description	Total	%	ALOS	Inpatient Bed Days	Day Case	Average Age	Inpatient WU	Day Case WU
Obstetrics	13462	77.83	2.34	25889	2419	33.53	5841.09	2651.41
Gynaecology	2589	14.97	1.96	789.5	2186	47.37	607.78	2416.39
Neonatology	1153	6.67	8.23	9493	0	0	2304.10	0
Anaesthetics	93	0.54	0.70	7.0	83	45.53	2.68	80.83
Total	**17297**	**100**	**2.87**	**36178.5**	**4688**	**33.43**	**8749.66**	**5148.66**

WU = weight unit

Human Resources

The Human Resources Department (HR) provide a corporate Human Resources and Pension Management service across the Hospital for Medical, Midwifery & Nursing, Allied Health Professionals, Management/ Administration and Support Services. HR is also involved in a number of corporate initiatives across the Hospital. The HR team supports the Executive Management Team and Department Heads in providing advice and guidance on good practices, talent aquisition and retention, optimising employee relations and other issues.
The Department continue to uphold the principles of accountability, confidentiality and trust. We currently have 8.02. WTE staff in the HR Department. (1.5 WTE staff dedicated to Pensions)

Talent Retention

It is evident that the biggest challenge for HR professionals continues to be people related: recruiting new employees, retention of current employees, succession planning, training and development. Monitoring and analysing employee turnover will help identify areas for improvement. HR take the lead in examining how best to enhance the Hospital Employee Value Proposition and ensure it is well communicated.
The HR Department provide quarterly reports on HR Activity to the People and Organisation Committee and The EMT.
The Hospital has received approval for a number of development posts in areas such as Fetal MRI, Infertility Programme, Mesh, Colposcopy and other aspects of the Maternity Strategy.

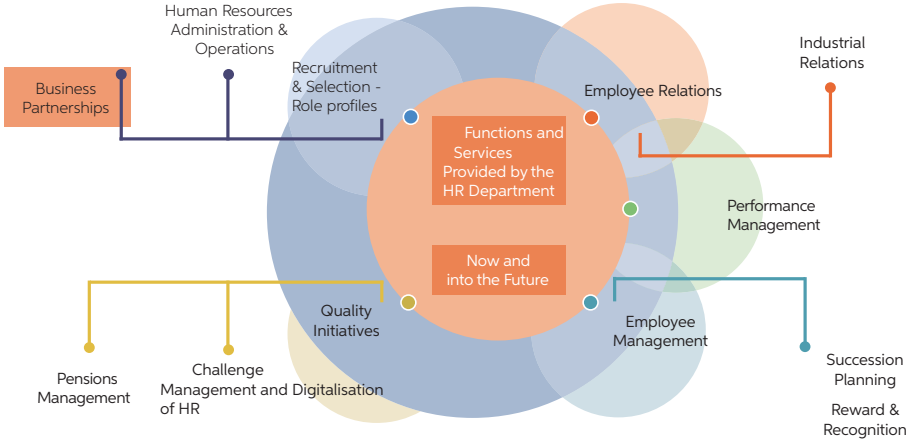
Recruitment

The NMH was impacted by a national recruitment embargo over quarter 4 of 2023, which reduced our ability to attract talent and fill open posts. However, the Hospital continues to develop and establish new services in line with the Maternity Strategy including in areas such as Menopause, Fertility, Genetics, Mesh and developing and expanding existing services such as Radiology (MRI), Perinatal Mental Health, Dietetics, Physiotherapy. These developments and the additional staff required, have been supported by funding from the National Women and Infant's Health Programme.

The Hospital has encountered some challenges in recruiting, particular

Edith Akpotor and Niamh Esser, Student Midwives.

Figure 1: Overview of the functions and the Services of the HR Team.



categories of staff with the relevant skill requirements within Midwifery & Nursing and Allied Health Professionals. The Hospital is continuing to look at creative ways of attracting staff. Although a national taskforce was set up in 2023 to assist with the shortages in the Midwifery & Nursing area, the output of this taskforce have not been received as of yet. Accommodation costs in Dublin has proven to be an ongoing barrier for recruitment.

Throughout 2023, the HR Department have participated in recruitment fairs organised by the Ireland East Hospital Group (IEHG) in Dublin as well as various cities in the UK, and have worked to create new links with other countries to attract staff to the Hospital. The Hospital engages with the HSE national framework for international recruitment of Midwifery & Nursing staff. There is also support provided to aid candidates in achieving NMBI registration. Our people, culture and alumni are our greatest asset and we plan to leverage our reputation to attract and retain staff.

Pensions Management in HR

The NMH as an organisation is fully compliant with the Single Public Service Pension Scheme (SPSPS) across the three key areas of statutory responsibility (Section 43 of the Act). The National Maternity Hospital was requested to be represented on the Single Scheme Compliance Forum Group to assist other Hospitals with compliance. This is a very positive development for the Hospital as all Hospitals are trustees of this scheme. The Hospital relies on the HSE in Manor Hamilton as pension administrators: over 2023 there was a wait time of up to 8 months delay for the processing of pensions claims for retiree's.

The pension area saw an increase in the number of staff retirements in 2022 and 2023 and this trend looks set to continue into 2024.

SUCCESSES AND ACHIEVEMENTS

Long Serving Staff Members

The following four staff members celebrated 40 years or more service with the hospital in 2023. Bridget Carew (CNM2), Ann Courtney-Reade, Administration, Siobhan Flanagan, Administration, Bernadine O'Driscoll, Administration.

HR Information Systems

The HR Department has continued to evolve its HR system (Softworks) and e-learning systems (Totara). Since the Totara upgrade in 2023 the HR team have continued to review and assure data with the goal of introducing more automated reporting in 2024. The integration of all e-learning training records within Totara, which formed part of the 2022 updates to the e-learning system, was of particular importance in respect to providing evidence of compliance during a HIQA audit which took place in Q2 2023.

Blended Working Policy

A Blended Working Policy was approved and launched in 2023.

Training for Staff

In-person mandatory training will be re-introduced for all staff in 2024. In addition, a number of staff attended a customer care refresher programme, facilitated through an external provider, designed especially for those in patient facing roles.

Staff Retention Initiatives

Staff at the Hospital who reach 25 years' service were awarded 5 extra day's holidays as a once off recognition of their dedication and loyal service to the Hospital. A ceremony was also held in recognition of this. This will continue on a yearly basis for staff.

People and Organisation Sub-Committee of the Board

This Committee completed its 1st full year in 2023, during which time it provided strategic oversight and advice on matters to support the people ambitions of the NMH Strategy and provide assurance to the NMH Executive Committee Team in respect to HR Operational Risk. The Committee consists of members of the Executive Committee and other members with specific expertise; HR attend this meeting with members of the EMT. The committee have set out a plan for 2024 with a focus on recruitment challenges as well as ensuring HR policy is reflective of best practice, and they will input in relation to the next Hospital Strategy on which work will commence in January 2024.

CHALLENGES EXPERIENCED

Industrial Action

Unsettled industrial relations continued across 2023 due to national issues including

Prof Shane Higgins, Master, was invited to attend the IBEC Voluntary Hospital HR Summit on 21st September 2023 entitled "Nurturing the post-Covid resilience, endurance and wellbeing of healthcare staff". Prof Higgins sat on the Hospital CEO Roundtable for a question and answer session following the Keynote Address by Professor Michael West who spoke on "Compassionate leadership for high-quality care". All members of the HR Team at NMH attended the Summit.

the implementation of Phase IV of the Job Evaluation Scheme for Support Staff and the implementation of a National Recruitment Embargo as well as a review in respect to the progression career pathways for Health and Social Care Profession (HSCP) grade. Various sectors threated industrial action across quarter 3 and 4 of 2023, with Forsa commencing work-to-rule action on 6th October 2023. In addition, the ending of the 1st Building Momentum National Agreement gave rise to threatened strike action from other sectors such as Pharmacy and Medical Laboratory Scientist Association (MLSA), as sectoral bargaining continued for these sectors at a National Level. The Hospital and staff co-operated well together during these periods with a steering group in place to respond to any issues as they arise.

New pay arrangements were introduced at a national level applicable to all staff during the year including the extension of the Building Momentum National Agreement and salaries were increased accordingly.

It is anticipated that 2024 will bring a new Public Sector Agreement for the period 2024-2026.

HR Quarterly Report Updates

The HR Department provide a quarterly HR performance report to the Finance Committee. The highlights of the key performance indicators (KPI's) for 2023 are given in the table at the end.

Absenteeism

The average absenteeism rate for the hospital in 2023 was 4.42%, but this was still acerbated by absence due to COVID-19 (0.27%) although this was greatly reduced from 2022 (3.2%). The HSE national target for absenteeism in normal circumstances is 4%. Our overall sick leave figure continues to be in line with the HSE average when absence due to COVID-19 is omitted.

Retirements

Fourteen members of staff retired in 2023 and each and every one of those staff will be missed by their colleagues and friends. The Hospital will also miss the expertise and knowledge these staff take with them. We wish them all along, health and happy retirement.

Employee Assistance Programme (EAP)

This is an independent confidential service provided by VHI for the Hospital; 72 employees used the EAP service in 2023, availing of advice on personal and legal matters, counselling sessions etc. This service has proved to be a valuable contribution to staff wellbeing.

Social Activities/Wellbeing

Hospital Quiz, Summer Staff BBQ, Yoga classes, Pride Celebrations in the Canteen, Summer Pantomime, walk in clinic in Occupational Health, Wellbeing Day (arranged by HR in conjunction with Healthy Ireland Committee), Christmas Dinner and the traditional Christmas Pantomime.

Deaths

We send our sincere condolences to the family, friends and colleagues of Binumol Polassery (Staff Midwife) who sadly passed away in service during 2023; may she rest in peace.

During the year a number of our retired staff died and we send our sincere condolences to their families. They include: Philip Troy, Senior Medical Scientist, Prof Michael O'Keeffe, Consultant Ophthalmologist, Catherine Ryan, Senior Staff Nurse and Marie Fahy, HR Manager.

Yvonne Connolly, HR Manager.

HR Performance Highlights	2021	2022	2023
Recruitment Competitions (Interviews held)	107	188	167
Staff Headcount (average for the year)	1058	1059	1086
Average Absence COVID-19/Non COVID-19	3.7%	4.8%	4.42%
Retirements (includes 4 staff who have preserved benefits in each year)	25	24	14

Information Technology

Twenty new HP EliteBook laptops arrived in January and were assigned to users as their primary machine which has further helped reduce the number of desktop personal computers (PCs) throughout the hospital. A further 10 laptops were delivered in September. We also acquired 50 PCs spread over two deliveries in May and October and these new PCs were used to replace older models that were due to be upgraded. The acquisition of the laptops and PCs has further reduced the number of Windows 7 PCs from 250 at the end of 2020 to 25 (out of a total of 530) at the end of 2023. The acquisition of most of these laptops and PCs was funded by the HSE.

The new Virtual Private Network (VPN) System that was installed in September 2021 is now widely used and by the end of the year, approximately 140 users were moved over to this system. The old VPN system was shut down in May 2023 as all the users were moved over to the new system. The number of Laptops being used now stands at approximately 270.

Following on from the cyberattack that occurred against the HSE in May 2021, the IT Department took part in two major security audits: one was performed by Crowe on behalf of the NMH and the IT Department completed all the recommendations made by them during the year. In response to the Crowe audit, the following policy documents have been written, approved and uploaded to QPulse:

1) Identity Access and Management Policy
2) Privileged Access Management Policy
3) Anti Malware Policy
4) Vulnerability and Patch Management Policy
5) Wireless Network Policy
6) Change Management Policy
7) Removeable Media Policy
8) Mobile Device Security Management Policy
9) Security Awareness Policy

A full Software List (export from System Center Configuration Manager) was provided to Crowe also as well as a list of attendees for the mandatory Cyber Security Awareness Training (course provided by HSE) provided by HR (approx 500 employees). Password policy changes were made in September and USB Port access was restricted in November 2023.

Syam Sundar, IT, Damian McKeown, Project Office, Gibin Babu, IT, Saju George, IT, & Martin Crowe, IT, with their prize for winning best dressed Department at Christmastime!

A follow up meeting with a HSE representative was held in September to check on the status of the Mandiant recommendations.

NMH is designated as an Operator of Essential Services (OES) since late 2022. Several meetings were held with representatives from the National Cyber Security Centre (NCSC) with Con Grimes who is the designated point of contact for NMH. An extensive cyber resilience self-assessment report was prepared throughout the year and with the help of Damian McKeown and Carl Alfvag, this was finalised and submitted on schedule by 30th September. The NCSC are due to come back to NMH with a review of that report in early 2024.

> “FOLLOWING ON FROM THE CYBERATTACK THAT OCCURRED AGAINST THE HSE IN MAY 2021, THE IT DEPARTMENT TOOK PART IN TWO MAJOR SECURITY AUDITS: ONE WAS PERFORMED BY CROWE ON BEHALF OF THE NMH AND THE IT DEPARTMENT COMPLETED ALL THE RECOMMENDATIONS”.

The three main systems that continue to protect the NMH Infrastructure are monitored and kept up to date by Declan Corrigan and Saju George.

1. Juniper Firewalls with SKY ATP (Antithreat Protection). Firmware updated March 2023.
2. Cisco Ironport for email scanning and filtering.
3. McAfee Anti-Virus Software was extended out to all PCs, Laptops and Servers as funding was provided by the HSE for Cyber Security initiatives.

In February 2023, the Telephony Upgrade Project was commenced and by the end of 2023, 200 new Avaya IP Phones had been installed. There are other areas that will be looked at in addition to ascertaining what cabling requirements will be necessary to cover areas where the cabling is either non-existent or faulty. The basement and ground floor areas of the main hospital have been surveyed recently and will be re-cabled in the coming weeks.

Audio visual equipment was upgraded in the Boardroom 4th Floor 65/66 Mount Street by the same supplier that completed the Unit 9A Lecture Theatre and the Main Lecture Theatre 1st Floor 65/66 Mount Street in 2021. Premier AV completed upgrading the audio-visual equipment in the Midwifery Classroom 1st Floor 65/66 Mount Street and the Antenatal Classroom on the 2nd Floor in the same building.

The network upgrade work to replace the Cisco 4510 in the Basement of 60 Mount Street was completed on April 28th 2023. The troublesome Cisco 4510 was removed and data connections were moved over to 2 x New Juniper EX3400 Switches (ordered for another project in August 2021). Two voice switches were also installed in July 2023 to move the telephones in this building over to the new Avaya IP System.

There were two large MN-CMS Projects where the Department was heavily involved in preparation, execution and subsequent support. The first was the Cerner Remote Hosted Option (RHO) cut over to their Data Centre in Sweden. This was completed over the weekend of 26th/27th August and went very well. The second project was the upgrade of the Fetalink Connectivity engines at all 4 maternity sites that currently use the Powerchart application. This took place in early December and went well also. Previously the support of the connectivity engines was under the Clinical Engineering Department but this was handed over to the IT Department in October 2023.

The graph below shows the workload trends for the IT Dept continuing on from last year's and starting in June 2019.

- Blue line represents Category 1 (break / fix) items.
- Green line represents Category 2 (password reset) items.
- Red line represents Category 3 (requests for assistance) items.

The impact created by the COVID-19 Pandemic can be seen at the 6th April 2020 whilst the high value for November 2020 was caused by problems with an IPMS Upgrade in September 2020 and problems with a Firewall Upgrade in November.

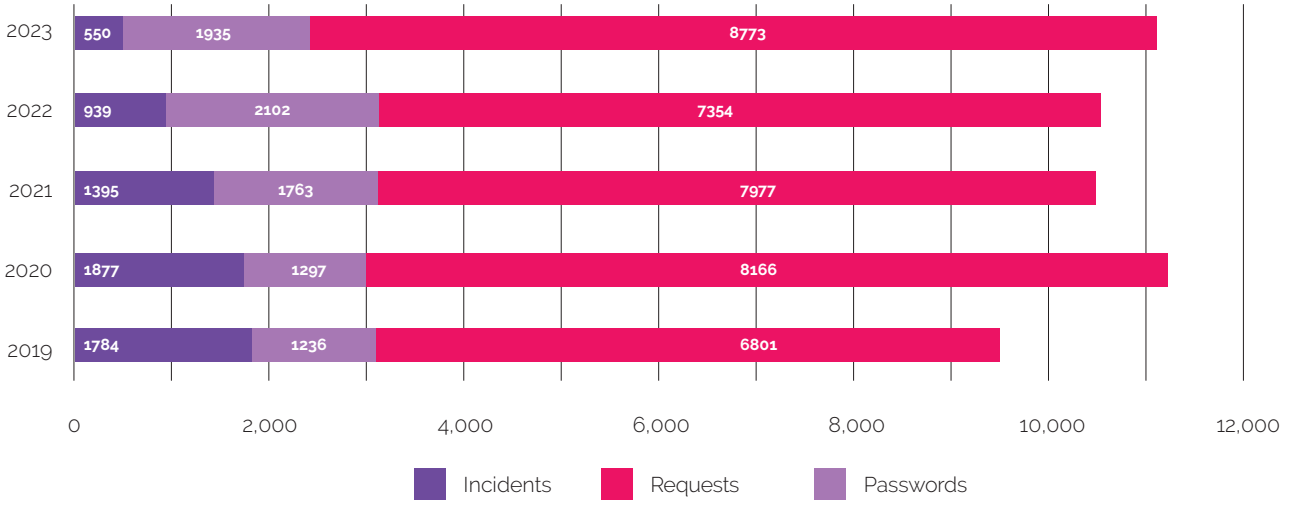
The drop in requests logged (red line) during 2022 probably reflects a return of more stable operations after the effects of COVID-19 in 2020 and the cyber-attack in May 2021.

The NMH Email system was upgraded again in 2023. This work was undertaken by Declan Corrigan and Saju George in conjunction with Datapac. The system was upgraded from Exchange 2010 to Exchange 2016 and this work was completed by end of January. The next upgrade from Exchange 2016 to Exchange 2019 was completed in November.

The vacant Grade IV Position was filled in July by Syam Sundar and he has settled in very well.

Con Grimes, I.T. Manager.

IT Event Logs 2019-2023



Information Management

Information Management involves retrieving and managing data from one or more sources and arranging it in such a way as to make it relevant and meaningful. Health Information Management is an increasingly important and essential resource: Hospital data from various clinical and administrative systems is validated and analysed in order to produce meaningful reports that are essential both internally and externally, to aid and support decision making, clinical audit, research publications, medical coding and billing.

The main source of data is from the electronic patient record that each patient across all specialties holds on the national Maternal and Newborn Clinical Management System (MN-CMS). MN-CMS reporting revolutionised clinical data analytics in The NMH but continues to be a substantial challenge with difficulties in developing and rolling out reports from the system. We continue to work with the national MN CMS Team to maximise our use of reliable reporting from MN-CMS.Improving information management practices is a key focus for many organisations across both public and private sectors and we are no exception. Generating interest in reporting and outcomes plays a significant role in improving practices and can provide motivation to ensure high quality data is recorded in order to return high quality reporting. However, it is not always simple: daily, weekly, monthly and annual validation checks undertaken on data across many systems takes time and requires the expertise of busy staff in particular the MN-CMS Team, Quality, Risk and Patient Safety Department, Delivery Ward Staff, Clinic Supervisors and iPMS Administrators. Efforts become all the more worthwhile as the benefits of high quality reporting are seen.

> “IMPROVING INFORMATION MANAGEMENT PRACTICES IS A KEY FOCUS FOR MANY ORGANISATIONS ACROSS BOTH PUBLIC AND PRIVATE SECTORS AND WE ARE NO EXCEPTION. GENERATING INTEREST IN REPORTING AND OUTCOMES PLAYS A SIGNIFICANT ROLE IN IMPROVING PRACTICES AND CAN PROVIDE MOTIVATION TO ENSURE HIGH QUALITY DATA IS RECORDED IN ORDER TO RETURN HIGH QUALITY REPORTING”.

The Information Management Department consists of Information Officer, Fionnuala Byrne and Data Analyst, Cillian Power. The Department works closely with all staff across all areas of the Hospital. The prime responsibilities of the Department are:

- Extracted and analyse information from hospital information systems to assist local management decisions and highlight changing/emerging trends across all departments.
- Organise Health Service Executive returns including Outpatient Cancellations, Bed Closures, Monthly Data Returns and Waiting Lists.
- Produce hospital activity reports for the Central Booking Committee, Clinical Governance Executive Committee, Executive Management Team, Finance Committee, Quality Risk and Safety Patient sub-committee of The Board as well as the Executive Committee (The Board).
- Coordinate the NMH Irish Maternity Indicator System (IMIS) returns.
- Prepare and publish online the monthly Maternity Safety Statement.
- Coordinate the completion and submission of all eligible perinatal death notification forms to National Perinatal Epidemiological Centre (NPEC).
- Publish the Hospital Annual Report and the Annual Neonatal Report.
- Manage the submission of all eligible babies to the Vermont Oxford Network.
- Fulfil ad-hoc, audit and research requests for staff and students.

Further iterations of the main NMH Dashboard were developed during the year including Domino, Antenatal Education and Emergency Dashboards. A Neonatal Dashboard showing key monthly Neonatal Activity is due to be launched in early 2024.

Fionnuala Byrne, Information Officer.

Patient Services

The Patient Services Department is a source of information and channels patient and service user queries in relation to Hospital services to the relevant areas. Service users' needs are constantly changing and we are determined to meet these needs.

Patient Services aims to support the Hospital's departments by providing professional and effective support to both clinical and non-clinical areas throughout the Hospital. In 2023, the department continued to provide administrative services across the Hospital in all our frontline patient areas.

During the year we trialled the voice recognition version of the T-Pro system for dictation and patient information services. We plan to roll out these systems further in different areas next year. T-Pro system also connected to healthlink, HSE GP system. In 2024, we will have an IPMS upgrade so letters can be generated automatically and not scanned or posted.

We were part of the IEHG Scheduled Care Project towards the end of the year. This also includes St. Vincent's University Hospital, St Michael's and St Columcilles Hospitals. It involves collaboration between the four sites for Gynaecology patient referrals. The project is ongoing and the goal is to create a central referral office in 2024.

Freedom of Information

In 2023, there were 1,545 written requests in total received under the Freedom of Information Act and Administrative Access. This was an increase of 54 requests on the previous year.

Of the 367 FOI requests, received 23 were corporate non-personal requests. 85% of the personal requests were for copies of medical records.

I would like to thank the Patient Services Team for their dedication to Patient care in 2023.

Finally, I would also like to thank the Executive Management Team for their continued support and we look forward to a rewarding year ahead.

Alan McNamara, Patient Services & FOI Officer.

Hazel Fox with her newborn baby son Charlie.

Purchasing and Supplies

2023 was again another challenging year for all staff in the Purchasing and Supplies Department. Activity throughout the Hospital remained at a very high level. We continued to face immense challenges to the supply chain as a result of huge increases in shipping issues/costs, a worldwide shortage of raw materials and the war in Ukraine. The new Medical Device Regulations resulted in a number of our Suppliers withdrawing products from the market which presented additional sourcing issues. We were forced on an increasing number of occasions to seek alternative products for stock/non stock items. The flexibility, understanding and support of Department Managers throughout the Hospital in relation to these issues was very much appreciated. At all times during this year, we remained focused on the requirements of our Hospital Departments and Clinics whilst mitigating the impact of these market conditions.

The annual audit was undertaken in March and as always our full co-operation was provided. This audit is an essential part of what we do in the department to ensure best practice is adhered to at all times.

> "AT ALL TIMES DURING THIS YEAR, WE REMAINED FOCUSED ON THE REQUIREMENTS OF OUR HOSPITAL DEPARTMENTS AND CLINICS WHILST MITIGATING THE IMPACT OF THESE MARKET CONDITIONS".

In conjunction with Department Heads, we commenced the process of actively reviewing and updating our stock and non-stock requisitions and the first stage of this was completed in December. This process will continue into 2024 and benefits both our team and user departments.

As always, we worked closely with the Tendering Department and thank them for all their assistance and support throughout the year.

The business of the Department is to provide maximum service with minimum risk whilst at all times striving to provide a high quality patient focused service. This would not be achieved without the continued dedication and commitment of all members of the Purchasing and Supplies Team. We would like to thank every member of the Department for their hard work and support and we look forward to a successful 2024 and all the challenges it will bring.

Lorraine McLoughlin & Linda Mulligan, Purchasing Managers.

Tendering

The objective of the Tendering Department, which works collaboratively with The Coombe Hospital, is to ensure compliance with National and European procurement guidelines for expenditure throughout The National Maternity Hospital (NMH).

Activity and interaction between NMH, Health Business Services (HBS) and the Office of Government Procurement (OGP) continued and when financially advantageous, we benefited by utilising the national frameworks and contracts. A number of significant projects ran through 2023, none of which could not have been achieved without the involvement of staff in many departments, we would like to extend our thanks to all those who participated.

> "A NUMBER OF SIGNIFICANT PROJECTS RAN THROUGH 2023, NONE OF WHICH COULD NOT HAVE BEEN ACHIEVED WITHOUT THE INVOLVEMENT OF STAFF IN MANY DEPARTMENTS"

2023 was another challenging year in NMH as activity in the hospital continued at a very high level. The requirements for non-contracted items continued to increase, thus providing a challenging period for sourcing, pricing, processing and delivery of goods. However, the year proved that by working together and supporting each other, we can make great things happen. The success that we had in 2023 could not have been met without the dedicated hard work of by our colleagues in the Purchasing and Supplies Departments who supported us wholly throughout the year.

With the continued support of the Executive Management Team, we have been provided with new systems to enable us to collate more comprehensive plans and we are looking forward to working with our all of our colleagues during 2024.

We wish to thank all the team for their continued commitment and hard work over the past year and look forward collaborating again for a successful 2024 and all the challenges it will bring.

James Byrne, Tendering Manager.

Development Project Office: NMH at Elm Park

Prof Michael Keane, SVUH, Mr Chris Chambers, Clancy, Mr Stephen Donnelly, Minister for Health, Mary Brosnan, NMH Director of Midwifery & Nursing, Prof Shane Higgins, Master, NMH.

The team continued to work with HSE Estates, Design Team and St Vincent's University Hospital. The Design Team issued the draft Stage 2c report for approval, which was closed off in May 2023. This will form the basis of the tender for the construction of the new Hospital.

On 11th July 2023, the Cabinet approved the business cases for the new National Maternity Hospital at Elm Park. This approval has enabled HSE to commence its tender strategy and the advanced enabling works went out to tender mid-2023. In December 2023, Clancy Construction were appointed as the contractor for these advanced enabling works, marking a significant milestone for our move to our new hospital at Elm Park.

The Suitability Assessment

Questionnaire (SAQ), which will short-list potential building contractors, was issued for the main works in 2023 and the team are preparing for the next step of the decision process.

Digital Health Steering Group (DHSG)

The DHSG continue to work closely with the Design Team and HSE Estates and submitted the final review of the technical requirements in the Stage 2c documentation. The first project, Single Sign On (SSO), is a national initiative, with NMH one of the first hospitals to roll it out. The team are in the process of preparing for the implementation of this project.

> "THIS APPROVAL HAS ENABLED HSE TO COMMENCE ITS TENDER STRATEGY AND THE ADVANCED ENABLING WORKS WENT OUT TO TENDER MID-2023. IN DECEMBER 2023, CLANCY CONSTRUCTION WERE APPOINTED AS THE CONTRACTOR FOR THESE ADVANCED ENABLING WORKS, MARKING A SIGNIFICANT MILESTONE FOR OUR MOVE TO OUR NEW HOSPITAL AT ELM PARK".

Members of the NMH at Elm Park Development Team

Phase 1 of the operational readiness was completed in December 2020 and the main Project Management Office (PMO) was stood down at that stage.

The remaining internal NMH PMO continue to work on various aspects of the project, as required.

Prof Shane Higgins, Ronan Gavin, Mary Brosnan, Alistair Holland, Dr Orla Sheil, Prof Jennifer Walsh, Martin Keane (IEHG), Damian McKeown, Eoghan Hayden, Gillian Canty, Martin Creagh, Geraldine Duffy, Sarah McCourt.

Damian McKeown Project Co-ordinator and Sarah McCourt, Project Administrator.

Méabh Jordan. Image: Aoife O'Connor Photography

Catering

The Catering Department at The National Maternity Hospital (NMH) has dedicated itself to fostering a robust and positive food safety culture over the years. Our team is deeply passionate about delivering nutritious meals that exceed the expectations of both patients and staff. We achieve this by offering a variety of locally sourced ingredients, expertly prepared by our talented chefs, and delivered with care by our dedicated team.

The year 2023 proved to be another highly successful one for our Department. Our menu themed days continue to be immensely popular adding a playful twist to beloved classic meals. Moreover, our annual Christmas lunch remains a highly anticipated event for all. These gatherings not only serve as a social highlight but also provide an opportunity to showcase our chefs' culinary skills. Throughout the past year, the Department overcame significant challenges, achieving notable milestones with the unwavering dedication and teamwork of our staff. Among these accomplishments, Teo Stetco's receipt of the Declan Meagher Innovation Medal stands out: a testament to the Department's commitment to pushing boundaries and fostering innovation on a daily basis.

Additionally, the Department was honoured to receive the 'Gold Happy Heart Award' from the Irish Heart Foundation, recognizing our steadfast efforts in providing wellbalanced, nutritious meals to patients and hospital staff: this is a great accomplishment of Marta and the amazing canteen team.
We have recently implemented new recycling initiatives in our canteen, including the introduction of separate bins for recycling and food waste. This initiative has been met with great enthusiasm and success among our staff. We are proud to collaborate closely with The NMH Green Committee to continually improve our waste management practices within the Catering Department.

Furthermore, the retention of the ISO 22000:2018 Food Safety Management Systems certification underscores the Department's ongoing dedication to enhancing overall performance in food safety initiatives. Notably, the successful passage of our annual FSPA audit with a score of 100% further attests to our commitment to maintaining high standards and ensuring the safety and quality of our food offerings. The Department were also finalists in the Irish Hotel and Catering Awards Gold medal awards for the healthcare section; this is the 5th year in that we have been nominated as a finalist in this category.

In April we said goodbye to Vijay Vijayaraghavan who retired after many years of dedicated service to NMH. Vijay was a much loved member of our team and we wish him well in his retirement. Our initiatives for 2024 will kick off with a project aimed at renovating unit kitchens, as well as the main kitchen, which serves as the heart of our catering operation within the Hospital. Despite observing a slight decrease in the birth rate and consequently patient numbers, we have concurrently witnessed a significant uptake in the provision of services and meals to both hospital staff and patients, both in the canteen and across hospitality offerings.

We would like to take this opportunity to thank all departments for their help and support throughout the year. I would also like to thank the catering team for their continued hard work and dedication this past year.

Liz Byrne, Catering Manager.

Conal Blaine and Donna Blake, Catering Staff & Barbie cakes in the Canteen!

Chaplaincy

The Chaplaincy Department provide spiritual, emotional, grief and bereavement support to bereaved patients / families who have experienced early miscarriage, mid trimester loss, stillbirth, neonatal death and compassionate induction of labour.

Spiritual/Religious and Practical Support

The Chaplaincy Department recognises and values all belief systems in a developing multi-cultural society through co-ordination of appropriate chaplaincy services with representatives and ministers of all faiths and those of none. All services being led by the Chaplaincy Department are viewed through a broad lens therefore delivering a 21st century model of spirituality through providing appropriate support.

Mortuary / Chapel of Rest

The Chaplaincy Department take full responsibility for the management / co-ordination of the mortuary chapel of rest services.

Activity

Table 1 below shows the areas where support has been provided. The chaplaincy office is used as a quiet space providing spiritual, emotional, grief and bereavement support to bereaved families and to staff members. There is also 'other' unspecified and unplanned support provided: this support often occurs informally with staff, patients and their families throughout the hospital. Also included in the 'other' support, is support provided to families whose baby's death had not been acknowledged in any way in the past. Many years ago the type of bereavement support which we have today, was not available to bereaved families. In some cases, the loss was never spoken about or acknowledged. Sometimes we are contacted by families (NMH patients) who are stuck in their grief work and journey, or siblings who have only learned about their mothers and fathers unspoken loss in their advancing years. In these situations, we offer the bereaved family appropriate emotional, spiritual, sociological support. We also offer the bereaved family an opportunity to attend our Remembrance Service, including having their baby's details entered into our remembrance book. In some circumstances we have led a very gentle private ritual or prayer service for the bereaved family if we feel it would help them to become unstuck in their grief work and journey forward.

Remembrance

The Chaplaincy Department organized and led liturgies throughout the year in the Hospital. This year's Remembrance Service took place in St Andrews Church Westland Row which was very well attended.

Helen Miley, Chaplain.

Activity Table

	2020	2021	2022	2023
Services - naming / Baptisms/ removals	213	141	143	121
Stillbirth / IUD	113	114	103	148
Other support	70	72	75	80
Early miscarriage	10	7	10	4
Neonatal death	30	35	38	38
Termination of pregnancy	14	19	18	23

Refers to support offered and not actual cases.

Facilities Engineering

The Facilities Engineering Department (FED) have had a number of staff changes during 2023. The FED team would like to thank all our current staff the continued efforts during 2023 and wish those leaving and joining in new positions the very best.

The Maintenance Department

The FED team continues to the trial the 12-hour working day working system which is proving most successful. This service provides cover Mon-Sat 8:00-20:00hrs and feedback is very positive. 2023 has been challenging in maintaining the existing aging assets and infrastructure throughout the campus. Although we have had quite a number of staffing changes, we have managed to maintain services throughout. Our thanks to the HR team who have supported us through the recruitment processes.

The Department continues to carry out repairs and replacement of flooring throughout the campus. Major safety works around the main central stairwell have been undertaken in addition to the Fitzwilliam Wing and Laboratory stairwell. Works were undertaken in a live environment and access was maintained for emergency occurrences.

The FED team continues key projects throughout the organisation including isolation rooms in the antenatal and gynaecology ward, the upgrade of the Chapel of Rest entrance area, the addition of new office space within the Stores Department, the conversion of the store room to office space in the Pre-assessment clinic, the Laboratory sample block store in the carpark, a new doorway into the Admissions Department and conversion of a large office into a smaller office with a separate meeting space. The FED Maintenance Team completed 5,013 work requisitions during 2023.

NMH Projects

Some essential key projects were completed during 2023. A major project completed during this period was the upgrade of the Electrical Sub-Main cabling. This was identified as a risk due to the infrastructure being beyond its useful life. Works were complete and no loss of power was experienced during this essential upgrade. The main hospital Kitchen also underwent an essential upgrade as this Department had reached its Electrical capacity. New Sub-Main cabling and a new Distribution Board were installed. Works were complete with no interruption to services.

Planning for many essential projects commenced/progressed in 2023. These include, but are not limited to, Anatomical Labs (concept stage), Bereavement Services (concept stage), a new Lift Core (HSE lead), new Ambulatory Gynae facility (HSE lead), A development of Central Decontamination Unit services (concept stage), Replacement of existing Generator and Main 10kV transformer (Tender Stage), First Floor Postnatal Ward Bathrooms (Tender Awarded), Unit 4 DeCovid Works (Tender awarded), Front Hall (Planning Stage), Bike Facility 65-66 Mount Street (In process), NCHD Project (Planning), NICU 1 (Minor refurbishment of Ward, Planning stage).

Environmental Department

The main drivers for the FED Environmental Department are to ensure the continual improvement and prevention of unnecessary environmental direct and indirect pollutions meeting national, international, and self- established targets. The FED Environmental Department sets performance targets each year across a broad range of environmental factors which drives environmental objectives and targets to improve the hospitals environmental performance in key areas such as Energy Management, Waste Management, Water Consumption, Discharge to Drain, Green Procurement Management, Training and Awareness and General Environment Management.

All waste produced, energy consumed and water used within the hospital is monitored on a continuous basis and reported to the Executive Management.

The hospital's total energy consumption (electricity and natural gas) in 2023 was 6,944,761kWh which represent an average increase of +0.07% when compare to 2022's energy consumption. And whereas the cost of energy has almost doubled, consumption is relatively static. Based on Degree Days 2023 was colder than 2022 resulting in increased gas consumption for heating. Throughout the NMH supplementary electric heaters (radiators) were in common use increasing electrical consumption and this has now been addressed.

In 2023, the hospital produced a total of 426 tonnes of waste from all areas of the hospital which include healthcare risk waste, domestic wastes, chemical wastes, recyclable and hazardous wastes which represent an average increase of +8.20% when compare to 2022 and 29,487 litres of waste such as chemical, grease, cooking oil, ext, and shows average increase of +17.64% when compare to 2022. If we compare figure to 2019 (5 years' period) then we could see our waste tonnes is decreasing by -14.95% but our litres waste increased by +24.05% and mainly this increase caused by increase a Grease Trap cleaning from monthly to every 3 weeks.

Neil Farrington, Facilities Engineering Manager.

General Services

Luminita Bocut, Joeann Trimble and Cordell Roflo of the Hygiene Services Department preparing a Delivery Suite.

Hygiene Services

The Hygiene Services Department is responsible for the environmental cleanliness of all patient, visitor and staff areas of the Hospital, and contributes to the cleaning of patient-use equipment. We draw upon international best practices for our operating procedures and cleaning methods, and pair these with the latest cleaning technologies.

The department contributes to the hospital's quality improvement initiatives through its participation in Quality and Safety 'Walk arounds', its involvement in the Hygiene Committee, and through its management of the hospital's hygiene audits, which are conducted in conjunction with members of the Nursing team. These audits measure the compliance of the Hospital's clinical and non-clinical hygiene activities against the requirements established by the Health Protection Surveillance Centre. The results help identify necessary improvements to our facilities, processes, and training programs. The department also liaises closely with the members of the House Committee, who conduct independent and unannounced reviews of the hospital's hygiene activities. Many thanks are extended to the members of this Committee for their time and valuable contributions.

In May of 2023, the hospital underwent an inspection by the Health Information and Quality Authority (HIQA). During their visit, the physical environment and medical equipment were inspected, and the hospital's hygiene audit system was reviewed, to ensure the quality model effectively monitored the delivery of hygiene services. The Department's involvement with the House Committee, who conduct independent and unannounced reviews of the hospital's hygiene activities, contributed to the success of HIQA's visit, and many thanks are extended to the members of this Committee also.

HIQA's visit also measured the compliance of the Department's training programs against the requirements of the Health Service Executive. As with all staff employed in the delivery of Healthcare, training is viewed as a priority in Hygiene Services because of the valuable professional development it offers, and because of the role it plays in maintaining the hospital's safety and quality standards. Since the COVID-19 pandemic, we have moved much of this training to various online platforms. All staff are to be commended for completing their training, and special congratulations are extended to Mr. Calin Buie, who was awarded his Bachelor's degree in Facility Management in 2023 following three years of study.

In the last half of the year, we welcomed Mihaela Gheorghe and Roberto Daga to the team, who brought with them their experience and enthusiasm and assisted in providing increased services to the Hospital's newly-expanded Theatre department.

The positive findings made by HIQA with respect to the hospital's cleanliness, the training successes, and the many positive hygiene audit outcomes are testament to the dedication and perseverance of the Hygiene Services team, who are to be

congratulated for making such an impactful contribution to the hospital's operation over the last year. *Mark Anderson, Hygiene Services Manager.*

Portering Services

The Portering Services Department provides an essential frontline service throughout The National Maternity Hospital including dedicated services to the Labour and Birthing Unit, Theatre, Laboratories, Laundry, Front Hall and Stores. These services can be categorized into patient-centred services and facilities-based services, both of which are provided on a 24-hour basis. Patient-centred services involve direct engagement with our patients, staff and visitors in terms of patient transportation, communication and general assistance. The facility-based services undertaken by Portering Services include daily operational tasks such as waste disposal, curtain hygiene maintenance, transportation of furniture and equipment, exchanges of medical gas cylinders and grounds keeping.

The Department has continued to support education and training programmes including mandatory training when required, as well as developing a new essential 'Emergency Skills Training' course in conjunction with the Labour and Birthing Unit. With the ongoing infrastructural projects of the Hospital on its current site, and its proposed co-location with St Vincent's University Hospital on the Elm Park Campus, the Department participated on several committees providing advice on all aspects of the management of Portering Services including risk assessment and cost effectiveness. The Department is also represented on several committees such as Manual Handling Trainers, Goal 3 NMH Strategic Plan 2019 - 2023 and Goal 2 NMH Strategic Plan 2019 – 2023 as well as the Communications Group and Green Committee.

Portering Services Department in conjunction with the Postnatal CMM3, worked closely with the arrival of new upgraded electrical beds and cots. The Department also worked closely with the Green Committee and Environment Department on carrying out a Hospital Waste Audit and we managed to increase our point of collection for recycling waste generated from different wards.As Hospital services continue to expand it is expected that Portering Services Department meet the demand and continue to provide the highest standards.

Claudiu Zselemi, Portering Services Manager.

Switch/Reception

This is based in 65/66 Lwr. Mount St. We are located in a very busy building, where on any given day, many people arrive for interviews, clinic attendances and meetings among other things. We pride ourselves on greeting each person with a welcoming smile, to be courteous and pleasant while delivering an efficient service. We are always on hand to direct patients/visitors to the relevant area.

In our role as Telephone Operators, each call is answered in a swift, friendly and competent manner whilst ensuring the highest level of confidentiality, compassion and empathy. As part of being a Telephonist, we use good communication and listening skills, including having a friendly, helpful and patient manner.

The Switch Team also has responsibility for the Internal Paging System. We are happy to be of assistance to our colleagues in navigating this system either by explaining how they work, changing batteries or issuing a temporary pager if theirs should be in need of repair. An emergency test call is sent out daily to ensure all emergency pagers are in perfect working order.

We look forward to offering our continued support to our patients and colleagues in the coming year.

Kathleen Maguire, Switch/Reception Manager.

Nicholas Gaillard, Porter.

Hospital Education

Dr John Murphy, Consultant Obstetrician & Gynaecologist (retired) teaching UCD Students in the Hospital.

Education will always be a priority for The National Maternity Hospital (NMH) in order to provide the best possible evidence based care to patients attending the NMH. The NMH is a busy clinical unit with a strong and proud history as a teaching hospital for both undergraduate and postgraduate students in all disciplines: medical, midwifery, nursing, physiotherapy, social work, laboratory science, dietetics and paramedics. As a teaching hospital for both University College Dublin and the Royal College of Surgeons of Ireland, nearly four hundred medical and midwifery students are trained here every year; these range from lectures, tutorials and introduction to clinical practice for Clinical One medical students, six-week placement in Clinical Two medicine, the eighteen-month Postgraduate Midwifery Programme and the four-year Bachelor of Midwifery degree students. Dietetics, nutrition and physiotherapy students are smaller in numbers of trainees, but no less welcome for their contribution and learning within the hospital environment. Most of the Non-Consultant Hospital Doctors (NCHDs) are registered for training either under the auspices of the Royal College of Physicians (Pathology, Paediatrics, Obstetrics, Gynaecology and Microbiology), the College of Anaesthetists or the Irish College of General Practitioners. The NMH provides training to fulfill the criteria for basic and specialist training in the specialties of obstetrics and gynaecology, anaesthesia, paediatrics and pathology.

Our fellowship programmes in Maternal Fetal Medicine, Labour Ward Management, Maternal Medicine, Placenta Accreta Spectrum, Neonatology and Obstetric Anaesthesia continue to be popular choices for highly trained and motivated trainees. Dr Maria Farren completed her post CCST ASPIRE Medical Education fellowship and has proven to be an excellent addition to the multidisciplinary team; Dr Shahad Al Tikriti has joined as the NMH Advanced Medical Education Fellow from July 2023 and Dr Ciara McCormack will join as an ASPIRE fellow in 2024.

Multidisciplinary Major Emergency Simulations

Two major simulations were run in the operating theatre during the year; the first on vascular injury at laproscopic surgery and the second on the new postpartum haemorrhage/major obstetric haemorrhage guideline. Both included phone calls to colleagues in St Vincent's University Hospital and both were highly successful and stimulated extensive discussion within the multidisciplinary team including medical scientists. The simulations will run on an annual basis.

Focus on Education

We have learned from the pandemic experience that a blended format of presentations facilitates staff members to attend. As practical examples of this, the MDT ran an "Impacted Fetal Head" management training week in May, a Haematology training week on venous thromboembolism in February, a Major Obstetric Haemorrhage training week in October and a Sepsis Education week in September 2023. A breastfeeding skills update was also held in August. The Diabetes Advanced Midwife Practitioners / Clinical Midwife Specialists held a "Hypoglycaemia Awareness" month in May highlighting practical skills in the recognition and management of hypoglycaemia when introducing the quality improvement initiative of hypoglycaemia management boxes. A "Basic Neonatal Resuscitation Skills" week was also held which was facilitated by the Neonatal Resuscitation Programme team. Other new initiatives included training in Emergencies and Anaphylaxis for staff members in MRI and Radiology (Radiology Department) and Local Anaesthesia toxicity training to Labour and Birthing Unit, Theatre, Anaesthesia and Obstetrics staff, Children's First Training and Multidisciplinary Airways training was also undertaken.

Ongoing Training

Extensive ongoing training for staff on the MN-CMS system, staff health and wellbeing, medication safety, medication reconciliation and continuing professional development are ongoing. The annual Charter Study Day was held in January. The annual study day for General Practitioners was held in November. The Labour and Birthing Unit (LBU) hold multidisciplinary weekly skills teaching and "LBU Topic of the month"; there is ongoing training within the antenatal, postnatal and gynaecology wards and the antenatal clinic appropriate to their work.

Advocacy Training

Advocacy days relevant to our care include Diabetes Day (November), Sepsis awareness (September 2023), Antimicrobial awareness (November) and Hand Hygiene (May). We congratulate the Sepsis Committee members for their success in winning the Ireland East Sepsis Training prize for having the greatest proportion of staff trained in Sepsis recognition and management.

PROMPT – Practical Obstetric Multi-professional Training

We aimed to run PROMPT training sessions more frequently, though it was often challenging to provide training while also providing clinical care. Having performed a gap analysis, the aim in 2023 was to provide training every six weeks as a six-month pilot. With the help of funding from the Executive Management Committee, we obtained 'train the trainer' programmes from PROMPT and ran three train the trainer's events, the latter with colleagues from Ireland East Hospital Group.

National Meetings

National Meetings held within the Hospital included a Genetics Study Day that took place in October with national and international speakers, and the Irish Society of Obstetric Anaesthesia annual meeting in November.

Staff Education and Qualifications

Maria Farren (Simulation), Aoife Lennon (Simulation) and Lavanya Lakshmanan (Medical Education) completed Certificate/ Diplomas in the University of Galway.

Mary Higgins completed an MSc in Healthcare Education.

Staff Research and Innovation

As ever, the popular and well attended RISE meeting (Research and Innovation Symposium Exhibition) has highlighted quality improvements, research, and innovation across all staff members in the hospital, both clinical and non-clinical,

Multidisciplinary Medical Education Committee (2023)

S Al-Tikriti, N Adnan, V Broderick, C Brophy, I Brown, A Calnan, P Calpin, L Crowley, M Farren, R Ffrench O'Carroll, A Hickey, M Higgins (Chair), N Higgins, S Knowles, L Lakshmanan, A Lennon, N O'Riordan, C Pugh, I Shanahan, L Sheehy – the NMH MDT Education Group.

Prof Mary Higgins, Consultant Obstetrician & Gynaecologist.

Table 1: Weekly multidisciplinary teaching programme

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Handover and MDT discussion twice a day on Labour ward, every weekday and weekend day				
Monthly: Accreta Monthly: Rhesus	Fetal Medicine	Maternal Medicine	Emergency care	Labour ward care
Theatre Education			Grand Rounds Monthly: Morbidity and Mortality	*Fetal Friday Training

Midwifery and Nursing Education and Practice Development

BSc Midwifery Class of 2023 Graduates.

The Education and Practice Development Department is responsible for the organisation and coordination of ongoing education and professional development of both qualified staff and student midwives and nurse. The aim of the department is to prepare midwives and nurses in providing highquality, evidence-based, patient-centred care in an evolving healthcare environment. The philosophy of life–long learning is promoted. Staff are supported to participate in educational programmes, conferences, seminars, and study days both internal and external. Many staff are pursuing education at Postgraduate degree, MSc and PhD levels. We are very grateful to the HSE Nursing and Midwifery Planning and Development Unit for their ongoing support for our education and research programmes. In conjunction with the Centre of Midwifery Education, The National Maternity Hospital (NMH) provides an ongoing continuous professional development programme for nurses and midwives.

The NMH in partnership with the Higher Education Institutions, strives to maintain a high level of quality Midwifery and Nursing education for all students and qualified staff alike. The aim is to promote high standards of professional education, training and practice and professional conduct among nurses and midwives thus ensuring the safety and protection of the public. In 2023 the NMH continued to provide education and clinical placements for the BSc and Higher Diploma Midwifery programmes and provided Maternity Care placements for approx. 200 UCD General and Children's & General Nursing students and Public Health Nursing Students. The BSc Midwifery Graduation was held in December. Congratulations to the following midwifery students who will be awarded prizes at the 2024 Charter Day: Gold Medal will be awarded to Tegan Kavanagh. The Elizabeth O Farrell Medal will be awarded to Karen Nevin.

Lucille Sheehy, Assistant Director of Midwifery & Nursing, Education & Practice Development.

Royal College of Surgeons in Ireland

Prof Declan Keane with Elena Teevan and her parents Rita and Mark Teevan at Charter Day, where Elena was awarded the 2023 RCSI/NMH Medal for achieving the highest marks in the final Obs/Gynae exam.

Thirty-eight undergraduates from the Royal College of Surgeons in Ireland (RCSI) attended The National Maternity Hospital (NMH) in 2023 for their six weeks rotation in Obstetrics, Gynaecology and Neonatology; 20 students in January/February and 18 in February/March. The programme was co-ordinated by Professor Declan Keane and Dr Roisin McConnell, the tutor. Ms Miriam Shanley and Mr Titas Belevicius provided administrative support to the students. Teaching was provided by Consultants and various other members of hospital staff. In addition to the obligatory e-learning programmes, the students, while rotating through all areas of the hospital, including Labour Ward, Postnatal Ward, Antenatal Ward, Theatre, Gynae Clinics and more, receive lectures, tutorials and 'hands-on' demonstrations. Sixteen students achieved honours in their final Obstetrics and Gynaecology examination at the RCSI. Four of these achieved first class honours. Ms. Elena Teevan was awarded the RCSI/NMH Medal for achieving the highest marks amongst the RCSI students who attended The National Maternity Hospital.

On the postgraduate front, Dr Nicola O'Riordan successfully completed her PhD entitled 'Labour dystocia: Increasing insights through proteomics, pharmacology and perinatal audit'.

Prof Declan Keane, Department of Obstetrics and Gynaecology, Royal College of Surgeons and Consultant Obstetrician & Gynaecologist.

University College Dublin Obstetrics & Gynaecology

UCD Obstetrics & Gynaecology at The National Maternity Hospital has a large and vibrant teaching programme delivered by Prof Fionnuala McAuliffe, Prof Mary Higgins, Prof Donal Brennan, Prof Colm O'Herlihy, and organised by Ms Stephanie Begley. Tutors Dr Aoife McEvoy, Dr Daniel Kane, Dr Cathy McNestry, Dr Clare Kennedy, Dr Kristyn Dunlop, Dr Bernard Kennedy and Dr Nicola Whelan provided excellence in teaching throughout the year.

The John F. Cunningham Medal was awarded to Dr Sadhbh McCarthy and the Kieran O'Driscoll Prize to Ms Emma Lyons.

We have an energetic and enthusiastic team of researchers ranging from MD to PhD students who are working on many projects spanning all of obstetrics and gynaecology.

Dr Sadbh McCarthy receiving the 2023 John F. Cunningham Medal from Pat McCann, Deputy Chairman; this medal is awarded to the UCD/NMH Student that obtains the highest 1st class honours in their Obs/Gynae exam.

SUBMISSION OF MD/PHDS

- Dr Grace Ryan was awarded her MD entitled 'To investigate the use of Virtual Reality and Augmented Reality in Medical Education.
- Dr Niamh Keating submitted her MD on diabetes research.
- Dr Maggie O'Brien was awarded her MSc project on Experiences and outcomes of Gypsy, Roma and Traveller women in pregnancy
- Dr Brendan Dempsey was awarded PhD for thesis entitled Providers experiences of abortion care.
- Dr Anna Delahunt was awarded PhD for thesis entitled Determinants of appetitive traits in children aged 5 and 9-11 years old: Findings from the ROLO longitudinal birth cohort study
- PhD awarded to Dr Romina Silva and to Yuhan Du
- MDs were submitted by Dr Kate Glennon, Dr Fionan Donohoe.

UCD PERINATAL RESEARCH CENTRE

(www.ucd.ie/medicine/perinatal, Twitter @UCDPerinatal)The centre's work aim is excellence in perinatal research to improve clinical outcomes for mothers and their infants.

RESEARCH FUNDING

Science Foundation Ireland Frontiers for Future PrePop, Fionnuala McAuliffe co PI

Welcome Leap Fetal movement monitor, €1,500,000 Fionnuala McAuliffe co PI

Science Foundation Ireland Microbe Mom, €3,409,091 Fionnuala McAuliffe co PI

National Children's Research Centre ROLO pre-teens, Fionnuala McAuliffe PI

HRB UCD Clinical Trials Centre €5,339,121 Fionnuala McAuliffe co-PI

EU Impact Diabetes Bump2Baby Mobile health (M-Health) supported intervention for women at risk of gestational diabetes €4,000,000 Fionnuala McAuliffe co-PI

AI-PREMie Science Foundation Ireland: €500,000 Mary Higgins

AI PREMie Science Foundation Ireland (Role: Society Champion) Seed Phase: €200,000 Mary Higgins

AI for Societal Good Challenge Science Foundation Ireland €1,000,000 Mary HIggins

Irish Cancer Society Womens Health Initiative 2020 "Women's Health Initiative Cancer Survivorship Project" - (€400,000 direct costs). Subsequent cost extension €200,000 to extend project to 2024. Principal Investigator Donal Brennan

Science Foundation Ireland - Precision Oncology Ireland "Dynamic Modelling

of T cell response to immune checkpoint inhibitors in high grade serous ovarian cancer" (€1,265,908 direct costs) Donal Brennan Co-PI with Prof. Walter Kolch

Irish Cancer Society Immuno-oncology Award "The Role of TIGIT in ovarian Cancer" (€350,000 direct costs) Donal Brennan Co-PI with Prof. Lydia Lynch

National Covid Biobank 2022 – Donal Brennan Co Applicant (€2m direct costs)

Irish Cancer Society 2022 "Comparing group-based Compassion Focused Therapy and breathing pattern retraining with Treatment As Usual on the psychological functioning of patients diagnosed with cancer recurrence during COVID-19: a randomised control trial" (€73,000 direct costs) Donal Brennan Principal Investigator

AWARDS / PRIZES

2023 The UK Nutrition Society summer conference, Liverpool July 2023 Sophie Callanan PhD (PI Prof McAuliffe from UCD Perinatal Research Centre) received best oral presentation for study entitled 'breastfeeding behavior and cardiovascular risk in later reproductive age women'.

Professor Fionnuala McAuliffe was elected onto the executive council of the International Federation of Gynecology and Obstetrics (FIGO) for 2023-2025. FIGO, with member societies in 139 countries/ territories, is the only organisation that brings together professional societies of obstetricians and gynecologists on a global basis. Ireland will contribute though the development of clinically relevant guidelines and easy to use clinical toolkits, and through the promotion of optimal nutrition in high, middle and low income countries.

Prof Higgins was successful in establishing the first **ASPIRE Education** fellowship and also in the first **Irish Clinical Education Training ICET fellowship**

RESEARCHERS WORKING IN OBSTETRICS & GYNAECOLOGY IN 2023

- Dr Sarah Louise Killeen, Postdoctoral Fellow
- Dr Aisling Geraghty, B2B Clinical Trials Manager
- Dr Ellen Greene, Postdoctoral Fellow B2B
- Dr Gillian Corbett PhD student
- Dr Cathy McNestry, MD Student
- Dr Fiona O'Toole MD student
- Dr May Loong Tang, PhD student
- Dr Grace Ryan, MD student
- Dr Marguerite O'Brien: MSc Student
- Ms Sophie Callanan, PhD student
- Ms Grace Mealy, research coordinator
- Ms Niamh Donnellan, research assistant
- Ms Emma Hokey, research assistant
- Dr Clare Kennedy, ICET and MD student
- Dr Shahad Al-Tikriti, ASPIRE education Fellow
- Ms Karima Abubakr, PhD student
- Martina Kriedal – PhD student– SBI
- Donagh Egan - PhD Student – SBI
- Dr Vadim Zhernovkov – Assistant Professor – SBI
- Ms Yvonne O'Meara – Project Manager – Survivorship
- Ms Aedin Roberts – CNS survivorship
- Dr Helen Ryan – Clinical Associate

RESEARCH PROJECTS

UCD Perinatal Research Centre www.ucd.ie/ medicine/perinatal, Twitter @UCDPerinatal was established in 2014 in recognition of the significant size, output and impact of the group. Ongoing research projects are listed below.

ROLO kids

This is a follow-up study at age 2, 5 and 9-10 years of mothers and infants from the ROLO study Randomised control trial of low glycaemic index diet to reduce recurrence of macrosomia. This includes ROLO families advisory group and ROLO Young Persons advisory group

Collaborators

Dr Sharleen O'Reilly, UCD School of Agricultural and Food Science
Dr Ciara McDonnell, Paediatric Endocrinology, Tallaght HospitalProf Cecily Kelleher, UCD School of Public health, Physiotherapy and Population Science Dr Declan Cody, Paediatric Endocrinology, Crumlin Hospital

Microbiome Mum

– role of maternal microbiome in influencing neonatal microbiome and impact of a probiotic on maternal and fetal health. This study examines the inter-relation between mother and baby microbiome and whether a probiotic given to Mum can have positive impacts on maternal and infant health

Collaborators

Dr Paul Cotter Teagasc
Dr Douwe Van Sinderen, University College Cork
Dr Radka Soldova, NIBRT, UCD

Prepops

This is a randomised controlled trial of probiotic vs placebo in the prevention of preterm birth.

Collaborators

Dr Paul Cotter Teagasc
Dr Conor Feehily, University of Galway
Prof David McIntyre, Imperial College London
Dr Siobhan Corcoran, NMH

Perinatal Endocrinology Research Group

A number of studies have been performed examining the interaction of vitamin D and lipids on maternal and fetal health

Collaborators

Dr. Malachi McKenna, Endocrinology, St Vincent's Hospital, Dublin
Dr Patrick Twomey, Pathology, St Vincent's Hospital, Dublin
Dr Rachel Crowley, Endocrinology, St Vincent's Hospital, Dublin
Dr Ciara McDonnell, Paediatric Endocrinology, Tallaght Hospital

Latch-On: Multicentre RCT

across 5 Hospitals in Ireland EastThis is an ambitious multicentre randomised controlled trial to support breastfeeding amongst women with BMI > 25 with includes intensive antenatal

and postnatal support

Collaborators

Prof Sharleen O'Reilly, UCD Institute of Food and Health
Prof Mary Brosnan, Ms Lucille Sheely National Maternity Hospital
Dr Denise McGuinness, Dr Barbra Coughlan, Dr Denise O'Brien, UCD School of Nursing, Midwifery and Health Systems

Bump to Baby and me B2B

A multifaceted mobile health and health coach supported intervention to reduce GDM in at risk women at NMH, Bristol, Granada and Melbourne commenced recruitment, PI Prof Sharleen O'Reilly

FIGO Pregnancy Nutrition and Obesity Initiative

We are developing clinical guidelines and a FIGO nutrition checklist that can be used globally to assist healthcare professionals caring for pregnant women to advise them about appropriate nutrition before, during and after pregnancy

Collaborators

Prof Mark Hanson, University of Southampton
Prof Hema Divakar, Divakars Speciality Hospital, Bengaluru, India.

Breastfeeding friendly city indicators

Study ongoing in Penang and Dublin developing indicators that a city is breastfeeding friendly

Collaborators

Dr Jacqueline Ho, Penang
Amal Omer-Salim, World Alliance Breastfeeding Action

VR baby and VR Bakri balloon

We are developing a virtual reality (VR) model of pregnancy to enhance medical and midwifery students and trainees experience of learning and also a VR Bakri balloon insertion model

Collaborators

Prof Eleni Mangina, UCD School of Computer Science
Dr Daniel Kane, Rotunda

FeMo Fetal movement monitor

In collaboration with Prof Niamh Nowlan, UCD Prof Biomedical Engineering NMH is trialling a novel fetal movement monitor

IronMother

This is UCD Clinical Research Centre supported RCT of treatment of iron deficiency anaemia in pregnancy, run by multidisciplinary team at NMH led by Prof Jennifer Walsh

Collaborators

Dr Joan Fitzgerald, Ms Benedetta Soldati, Dr Karen Murphy, Ms AnnMarie Cruse

Alcohol screening in pregnancy

This anonymous study commenced in 2023 in collaboration with Prof Aiden McCormick and Dr Ciara McCormick

Medical Student Teaching

Collaborative project with UCD Psychology studying women's and students' experiences of bedside teaching. Development and Validation of a questionnaire studying women's attitudes towards bedside teaching.

Second Victim

To assess prevalence of second victim in maternity care in Ireland and the impact on clinical staff of adverse outcomes.

IRELAND study

Multicentre RCT in aspirin use to prevent pre-eclampsia in women with pregestational diabetes.

Stigma in abortion care providers

Qualitative and quantitative study of service providers views of stigma related to their clinical work.

Ovarian Cancer Immunology

Prof Brennan co-leads a group of 7 scientists (4 PhD Students, 3 post-doctoral scientists) with Prof Walter Kolch in Systems Biology Ireland, UCD School of Medicine, which focuses on cancer immunology with a particular focus on the impact of aberrant intracellular signalling on T-cell activity. He also actively collaborates with Prof Lydia Lynch, Harvard Medical School, with whom he co-supervises a PhD student and post-doctoral scientist also working on ovarian cancer immune response.

Women's Health Initiative – The GO Cancer Centre

The GO Cancer Centre at the Mater Hospital funded by the Irish Cancer Society supports the delivery of numerous projects in the cancer survivorship arena and is coordinating numerous clinical trials in this area and led the development of the web portal www.thisisgo.ie . The GO Cancer Centre is managed by Ms Yvonne O'Meara and currently includes two MD students, two survivorship nurses. The Centre collaborates with many disciplines including oncology nurse specialists, dietietics, physiotherapy and psycho-oncology

Placenta Accreta Spectrum

The placenta accreta spectrum service is coordinated by a clinical fellow, Dr Helena Bartels who is also completing a PhD focused on multi-omic technology to predict severity of disease. We collaborate with Placenta Accreta Ireland and have been to the forefront of documenting the patient story and lived experience on both a national and international level.

Medical Education ("MedEd") Electives Prof Mary Higgins

We run highly successful electives in Medical Education with medical student participants. As well as students gaining increased knowledge in MedEd theories, student output includes the following:

- A 100-page handbook for final year students reviewing Obstetrics and Gynaecology
- "Obscast" podcast
- Multiple MedEd infographics on subject's that students identified as relevant and under resourced in the standard curriculum
- Presentations at the INHED, AMEE and ASME meetings

Ongoing Gynaecology Clinical Trials

OVHIPEC-2 - stage III epithelial ovarian cancer randomizing between primary

cytoreductive surgery with or without hyperthermic intraperitoneal chemotherapy (https://clinicaltrials.gov/ct2/show/NCT03772028) – recruitment ongoing

Menopause after Cancer (MAC) Study – single arm phase 2 examining if the addition of psycho-social support and digital cognitive behavioural therapy (CBT) for insomnia to standard non-hormonal pharmacotherapy can improve quality of life in women with menopause and a prior cancer diagnosis (https://clinicaltrials.gov/ ct2/show/NCT04766229) – recruitment complete

COMFORT Trial – investigation of the effectiveness of a compassion focused therapy and breathing pattern retraining in reducing psychological distress for people who were diagnosed with cancer 'recurrence' since the beginning of the COVID-19 pandemic. (https://clinicaltrials.gov/ct2/show/NCT05518591) – recruitment ongoing

OASIS-4 – Placebo controlled double blind phase 3 study examing the effectiveness of Elinzanetant for treatment of vasomotor symptoms caused by anti-endocrine therapy in women with, or at high risk for developing hormone-receptor positive breast cancer. (https://clinicaltrials.gov/ct2/ show/NCT05587296) – recruitment ongoing*Publications from UCD Obstetrics & Gynaecology in 2023, 68 in total, are listed in the Published Research Section under UCD Obstetrics & Gynaecology*

Prof Fionnuala McAuliffe, UCD Full Academic Professor of Obstetrics & Gynaecology, Consultant Obstetrician & Gynaecologist.

Members of the Perinatal Research Centre.

Research Ethics Committee

The National Maternity Hospital Research Ethics Committee is both a Local and National Ethics Committee. It is approved by the Department of Health to review National Perinatal Studies. It reviews Obstetric, Neonatal, Anaesthetic, Gynaecology and Perinatal Pathology research.

Monthly meetings are held with the exception of August. There is one quarter lay attendance and a quorum is required at each meeting.

Generally, the applications are approved at each meeting; if not approved the Chairman will request clarification on a particular issue. A final decision is always made at the second review of the Committee. The average length of time between receipt of an application and a final decision by the Committee is 4-8 weeksIn 2023 the Research Ethics Committee received 44 new research application proposals, this was an increase from 2023 when we received 43.

32 of the applications were approved at first review, 10 needed further clarification. 2 were Deferred with no further submission.

Prof John Murphy, Research Ethics Committee Chair.

Sorcha Madigan with her newborn baby boy Marcus.

Research and Innovation Symposium Exhibition – RISE

Teo Stetco, 2023 recipient of the Declan Meagher Innovation Medal for his paperless system project, and Pat McCann, Deputy Chairman, at Charter Day.

Our third RISE was held at The National Maternity Hospital (NMH), Dublin on Friday 24th February 2023.

We had a hard working, multidisciplinary and enthusiastic committee coordinating the event. We are grateful to the Executive Management Team (EMT) for their support for this annual event, commenced in 2020, to showcase NMH based research and innovation across all areas of the hospital.

RISE committee
Fionnuala McAuliffe (Chair), Lucille Sheehy, Eoin O'Currain, David Fitzgerald, Eoghan Hayden, Marie Culliton, Siobhan Corcoran, Ingrid Browne, Lucy Geraghty, Rob Joyce, Gillian Corbett, Jill Mitchell, Tommy McGinsey.

Sixty three abstracts were submitted and 24 were selected for oral presentation, the remainder for poster presentation. A panel of judges worked hard to score the poster and oral presentations and the following prizes were awarded.

The Research Colm O'Herlihy medal for the best research paper was awarded to Dr Emma Dunne, Neonatology UCD Academic Clinical Fellow for her study 'A Randomized Trial of Umbilical or Peripheral Catheter Insertion for Preterm Infants on Admission to the NICU'. Second prize was awarded to Dr Gillian Corbett, Obstetrics & Gynecology UCD Maternal Medicine Academic Clinical Fellow for her study 'The Vaginal Community State Type in a Healthy Pregnancy Population and the influence of Demographic Lifestyle and Diet. In third place was Dr Amelia Hogan, Specialist Registrar, Anaesthetics for 'Spinal Anaesthesia in Day-Case Gynaecological Surgery: a Comparison of Recovery Times'.

The Innovation Declan Meagher medal was awarded to Mr Teo Stetco, Catering for his innovative project 'Paperless System for Catering Department Ordering System and Processing Order for Kitchen. In second prize was Ms Montse Corderroura, Pharmacy, for her paper on 'NICU Formulary App'. Third prize went to Ms Sarah Cullen, Clinical Midwife Specialist in Bereavement for her paper 'Optimising precious resources: the establishment of a Miscarriage Genetics Multidisciplinary Team at NMH'.

The **Research Poster prizes** were as follows: first prize to Dr Carmel Moore, Paediatrics, 'Effects of antenatal depression on infant hypothalamic-pituitary-adrenal axis over the first year of life', second prize to Dr Lucy Geraghty Paediatrics, 'A randomised crossover study of standard laryngoscope and two videolaryngoscopes for endotracheal intubation of newborn mannequins'. Third prize was awarded to Dr Carmel Moore, Paediatrics, 'Safety and feasibility of platelet transfusion via long catheter'

Innovation posters, first prize to Ms Valerie Seymour, Clinical Midwifery Manager, 'TLC clinic, a valuable addition to the first trimester care following recurrent pregnancy loss'. Second prize to Ms Theresa Barry, Antenatal Education Midwife 'Birth of pregnancy wellbeing classes' and third prize to Ms Zelda Greene, Speech and Language Therapy, 'ACORN programme for neonatal development'.

The best visual poster was awarded to Dr Ross Free, SpR Anaesthesia, 'Role of human factor for general anaesthesia for CS'.

The best audit awarded to Dr Recie Davern, SpR Endocrinology, 'Universal screening for thyroid dysfunction in pregnancy'.

Prof Fionnuala McAuliffe, UCD Full Academic Professor of Obstetrics & Gynaecology, Consultant Obstetrician & Gynaecologist.

The Joint Research Network

The Joint Research Network was established by the Director of Midwifery and Nursing, Mary Brosnan and Prof Michelle Butler (UCD) to develop a research culture for midwives, student midwives and nurses. As part of on-going development of maternity care services within The National Maternity Hospital, Mary Brosnan recognised that research links between the NMH and their education partners, UCD School of Nursing Midwifery and Health Systems should be formalised. The vision and goals of the group are to translate evidence-based midwifery and nursing knowledge into practice. Since 2007, the group has expanded and evolved to include our Ireland East Hospital Group partners.

Twitter: @JRNNMHUCD
Website: Joint Research Network (nmh.ie)

JRN Philosophy:
Midwives, Nurses, Academics and Students Working Together in a Community of Practice and Research.

Membership:

- Academics from UCD School of Nursing Midwifery and Health Systems.
- Midwifery and nursing staff and students in the Ireland East Hospital Group.
- National Maternity Hospital, Chair: Sarah Cullen
- University College Dublin, Chair: Dr Denise O'Brien
- National Maternity Hospital, Vice Chair: Dr Shauna Callaghan
- University College Dublin, Vice Chair: Assoc. Prof. Barbara Coughlan

Midwives & Nurses working on research 2023:

- Lucille Sheehy, ADOM/Clinical Professional Development Co-ordinator
- Jean Doherty, Staff/Research Midwife
- Ciara Coveney, Advanced Midwife Practitioner, Diabetes
- Dr Shauna Callaghan, Diabetes
- Helen McHale, CMM2 Antenatal
- Melanie Bennett, Staff Midwife, Antenatal
- Caroline Brophy, Advanced Midwife Practitioner, Assisted Care
- Sinead Thompson, Community Midwife
- Teresa McCreery, ADOM, Community Midwifery Services and Lactation
- Martina Cronin, CMM3, Labour & Birthing Suite and Antenatal services
- Alice Hoffmeister, Community Midwife
- Sarah Cullen, Bereavement Clinical Specialist Midwife
- Sharon Egan, Clinical Placement Co-ordinator

Research Projects
Gestational Diabetes Mellitus RAMP Led Virtual Clinic: An evaluation of treatment and of maternal and neonate outcomes.

Research team: The National Maternity Hospital: Ciara Coveney, Dr Shauna Callaghan, Eimear Rutter, Hannah Rooney, Prof Mensud Hatunic.

Conference Presentations 2022 - 2023

- University College Dublin Inaugural International Research Conference, 2023. Presented by Ciara Coveney.
- Department of Health Slaintecare Webinar Series. "The Role of Advanced Practice Nursing and Midwifery Practitioners in Implementing the Slaintecare health reform programme. Ciara Coveney: Speaker and Representative for Advanced Midwife Practitioners.

Jean Doherty, Staff Midwife in the Iris Clinic.

- RCM/INMO All Ireland Midwifery Conference "Midwives Delivering on Quality" 2023. Presented by Ciara Coveney.

Hyperemesis Gravidarum Hydration Clinic: An evaluation of the symptoms, assessments, treatment and support.
Research team: The National Maternity Hospital: Jean Doherty, Lucille Sheehy, Sinead Curran, Dr. Sarah-Louise Killeen, Melanie Bennett, Helen McHale, Lillian Murtagh. Public/patient representative: Dr Suzanne Murphy. Technological University Dublin: Dr Eileen O'Brien

Publications to date:
Doherty, J., McHale, H., Killeen, S.-L., Curran, S., Bennett, M., Sheehy, L., Murphy, S., Murtagh, L., O'Brien, E., 2023. Women's experiences of Hyperemesis Gravidarum (HG) and of attending a dedicated multi-disciplinary hydration clinic. Women Birth S1871519223000999. https://doi.org/10.1016/j.wombi.2023.06.005

O'Brien, E.C., Doherty, J., Killeen, S.L., Bennett, M., Murtagh, L., Curran, S., Murphy, S., McHale, H., Sheehy, L., 2023. The IRIS clinic: A Protocol for a mixed-methods study evaluating the management of Hyperemesis Gravidarum. Contemp. Clin. Trials Commun. 101227. https://doi.org/10.1016/j.conctc.2023.101227

Conference presentations 2022 - 2023
- UCD inaugural international research Conference, Dublin, 2023. Presented by Jean Doherty.
- THeConf, Trinity College, Dublin, 2023. Presented by Jean Doherty.
  INDI Research Symposium, Dublin, 2022. Presented by Dr. Eileen O'Brien.
- Maternity & Midwifery festival, Dublin, 2022. Presented by Helen McHale & Melanie Bennett.
- NMPDU Annual Conference, Dublin, 2022. Presented by Jean Doherty.

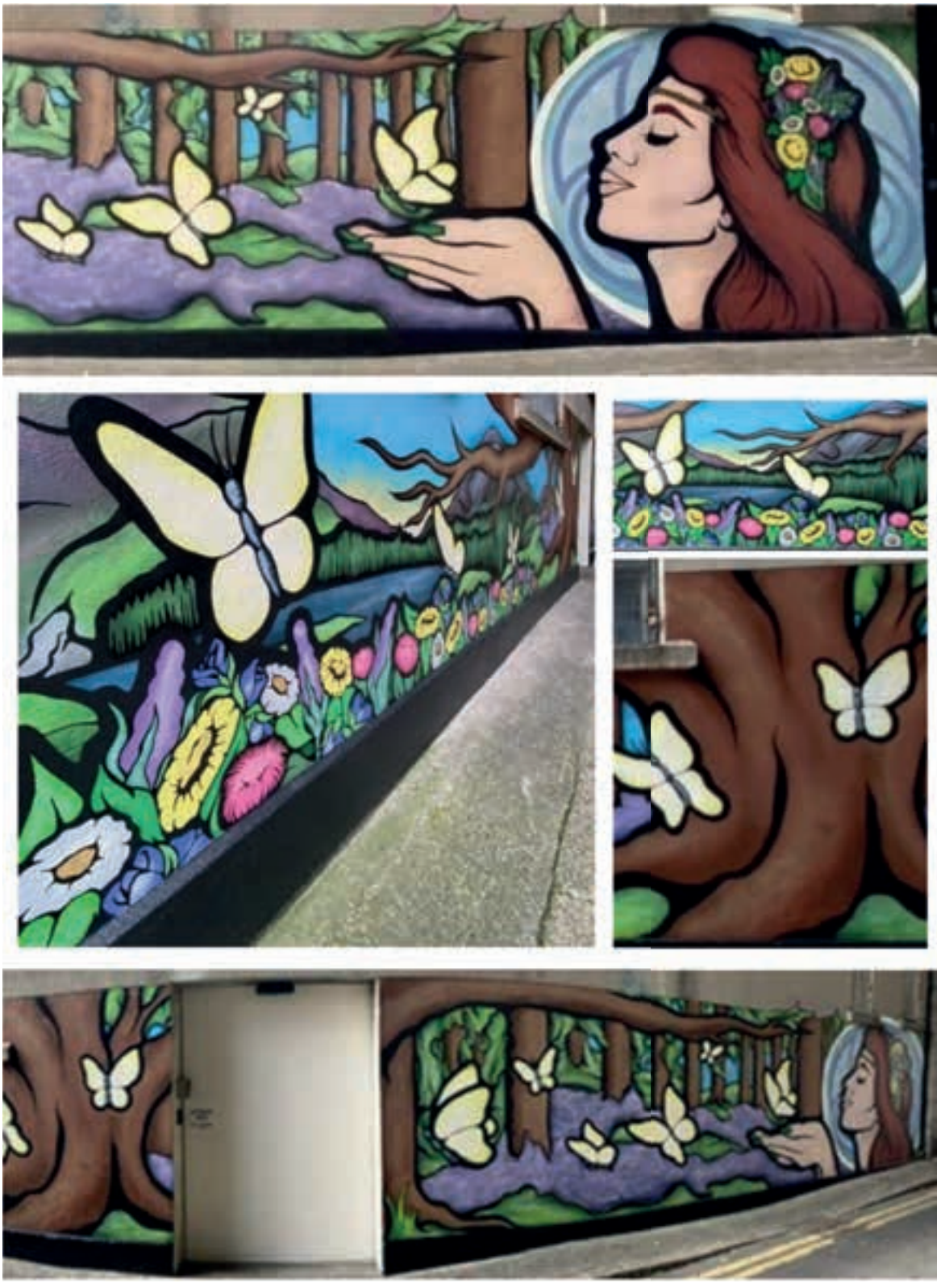
Labour Hopscotch 2 Project: Evaluation of Labour Hopscotch across the IEHG and the development of the Labour Hopscotch App.
Research Team: NMH: Sinead Thompson, Jean Doherty, Teresa McCreery, Martina Cronin, Lucille Sheehy, Mary Brosnan, UCD: Dr Denise O'Brien, Assoc. Prof. Barbara Coughlan, Dr. Lorraine Carroll, Mary Curtin. St. Luke's Hospital, Kilkenny: Ann Margaret Hogan, Wexford General Hospital: Caroline Early, Midlands Regional Hospital, Mullingar: Maureen Revilles, Orla Mongan.

Evaluation of Positive Birth Affirmation Cards
Research team: Alice Hoffmeister, Teresa McCreery, Sarah Cullen, Sharon Egan, Amanda O'Connor, Jean Doherty.

Review of the new TLC (Tender Loving Care) clinic for women with recurrent miscarriages.
Research team: Sarah Cullen, Valerie Seymour, Isabel Dwyer, Dr David Crosby, Dr Cathy Allen
Conference presentations:
- Trinity Health and Education International Research Conference 2023 (THEconf2023), March 2023. Presented by Sarah Cullen.

IEHG Nursing & Midwifery Symposium, November 2023. Presented by Valerie Seymour.
Publications: Cullen, S., Seymour, V., Dwyer, I., Doyle, S., Crosby, D., Allen, C., 2023. Tender loving care following recurrent miscarriages: a review of a dedicated antenatal clinic. Br. J. Midwifery 31, 248–251. https://doi.org/10.12968/bjom.2023.31.5.248

Jean Doherty, Staff Midwife / Research Midwife – Joint Research Network. Occasional Lecturer, University College Dublin



The National Maternity Hospital finished work on a themed mural outside the Chapel of Rest in October 2023. The NMH, together with Dublin City Council, commissioned the mural by artist Shauna Heron of Blu Heron Design to enhance the area outside the Chapel. The Chapel of Rest is a non-denominational space where parents can choose to have a naming or blessing ceremony before transitioning from the hospital to their chosen place of rest. The NMH hope that this mural will enhance the area and act as a tribute to the lives of all of the babies who have died too soon.

Financial Statements

Income And Expenditure

Extracts from the Hospital Income & Expenditure Account For the Year Ended 31 December 2023

Income And Expenditure	2023	2022
	€000	€000
Ordinary Income		
Miscellaneous	417	345
Treatment Charges	11,728	10,828
	12,145	**11,173**
Ordinary Expenditure - Pay		
Medical NCHD's	7,486	7,217
Consultants	11,958	10,405
Nursing	33,727	32,099
Para-Medical	7,548	6,962
Housekeeping	2,800	2,822
Catering	2,568	2,474
Porters	1,289	1,347
Maintenance	584	603
Administration	9,440	8,938
Pensions	6,335	4,476
	83,735	**77,343**
Ordinary Expenditure - Non Pay		
Medicines, Blood & Gases	2,483	2,365
Laboratory Expenses	2,871	2,503
Medical and Surgical Appliances	4,482	4,504
X-Ray Expenses	447	220
Provisions	1,071	868
Heat, Power and Light	690	500
Cleaning and Washing	1,043	1,028
Furniture, Hardware and Crockery	128	61
Bedding and Clothing	109	96
Maintenance	517	554
Transport and Travel	213	141
Finance/Professional fees	1,085	811
Bad Debt provision	(93)	(1,793)
Office Expenses	992	1,084
Education, Training	539	264
Computer Expenses	792	802
Miscellaneous	1,687	1,685
Depreciation	3,231	3,282
Amortisation	(2,458)	(2,489)
	19,829	**16,486**
Surplus for Year		
Net expenditure	91,420	82,656
Annual Allocation	94,038	84,651
less amount deferred in respect of fixed asset additions	(1,364)	(1,021)
Surplus	**1,254**	**974**

Cumulative Figures

Extracts from the Hospital Income & Expenditure Account For the Year Ended 31 December 2023

	2023	2022
	€000	€000
Revenue Reserves (2022 as previously reported)	(383)	(2,150)
Prior Year Adjustment re Capital Grants amortisation	-	(9,208)
Transfer between reserves from Revaluation Reserve to Revenue Reserve	773	10,001
Surplus for the year (as restated for 2022)	1,254	974
Revenue Reserve (2022 - as restated)	**1,644**	**(383)**

Balance Sheet

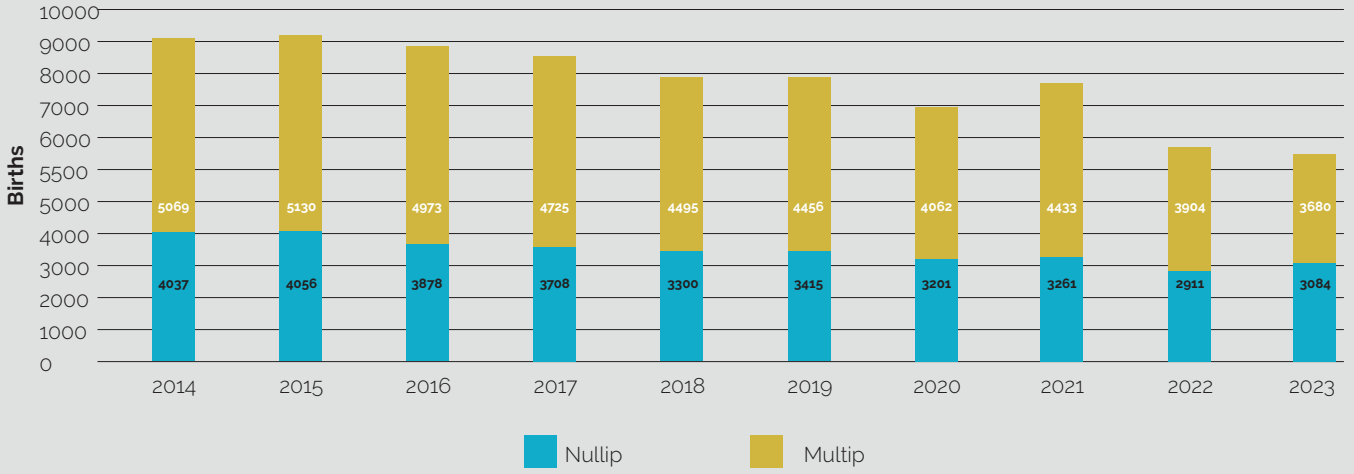
Extracts from the Hospital Balance Sheet as at 31 December 2023

	2023		2022	
	€000		€000	
Fixed Assets		73,991		74,773
Current Assets				
Stocks	424		422	
Debtors	17,297		10,479	
Cash & Bank	-		-	
	17,721		**10,901**	
Current Liabilities				
Creditors	(15,903)		(10,604)	
	(15,903)		**(10,604)**	
Net Current Liabilities		1,818		297
Creditors *(amounts falling due after more than one year)*				
Deferred Grant		(40,682)		(40,692)
Loans from Funds		(1,682)		(2,187)
Net Assets		**33,445**		**32,191**
Represented By:				
Revaluation Reserve		31,759		32,532
Accumulated Surplus / (Deficit) at end of year		1,644		(383)
Other Funds		42		42
		33,445		**32,191**

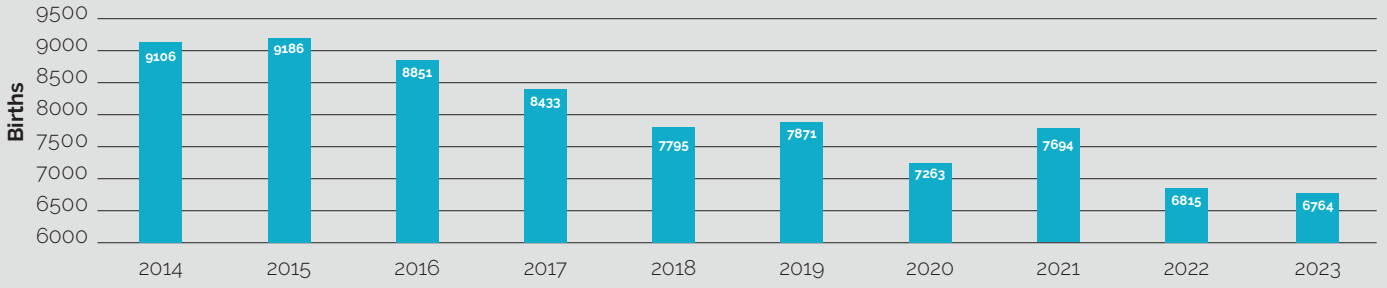
Clinical & Administrative Activity

Mothers Delivered	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Nullip	4037	4056	3878	3708	3300	3415	3201	3261	2911	3084
Multip	5069	5130	4973	4725	4495	4456	4062	4433	3904	3680
Total	**9106**	**9186**	**8851**	**8433**	**7795**	**7871**	**7795**	**7694**	**6815**	**6764**
% Nullip	44.3%	44.2%	43.8%	44.0%	42.3%	43.4%	41.1%	42.4%	42.7%	45.6%

Births by Parity



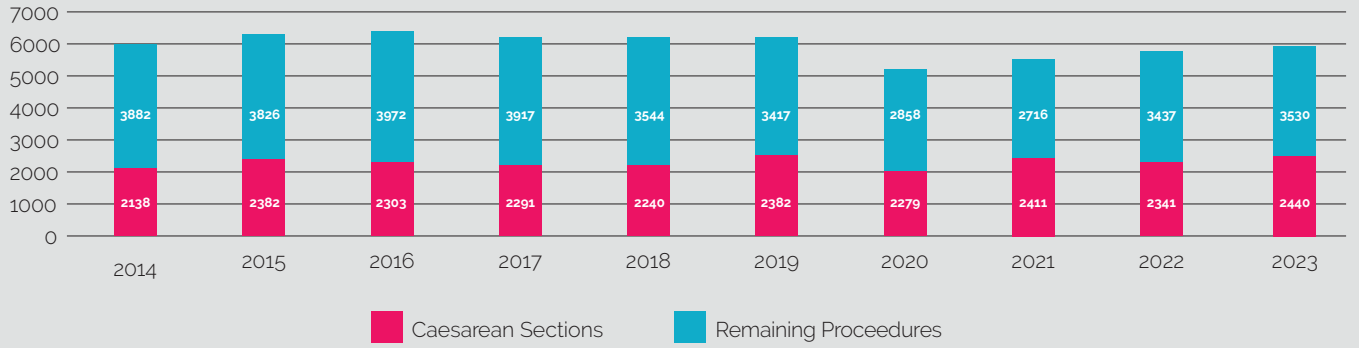
Births



Theatre Activity

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Caesarean Sections	2138	2382	2303	2291	2240	2382	2279	2411	2341	2440
Remaining Procedures	3882	3826	3972	3917	3544	3417	2858	3154	3437	3530
Total	**5940**	**5824**	**6020**	**6208**	**6275**	**5799**	**5137**	**5565**	**5778**	**5970**

Theatre Procedures



Outpatient Activity

Outpatient Activity	2014	2015	2016	2017	2018	2019	2020	2021	2022*	2023*
Obstetric*	69430	76120	74481	71711	71896	73870	73722	80721	69410	71145
Gynaecology & Colposcopy	15264	16419	16353	15673	15565	15691	14404	18603	20302	22628
Neonatology	4365	3777	3914	4023	3367	3443	2765	3160	2815	2998
Total	**89059**	**96316**	**94748**	**91407**	**90828**	**93004**	**90891**	**102484**	**92527**	**96771**

** revised for 2023 report. Includes sub-specialties. Excludes all unbooked attendances*

Fetal Medicine Unit

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Booked Attendances	22835	22829	21746	21309	21539	23679	24779	22207	25001	24665

Inpatient Discharges

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Obstetric	13799	13680	13598	12842	13128	12428	11405	13103	11359	11418
Gynaecology	858	749	681	583	502	755	532	710	469	481
Neonatology	1908	2030	1833	2010	1536	1549	1240	1262	1148	1199
Total	**16565**	**16459**	**16112**	**15435**	**15166**	**14732**	**13177**	**15075**	**12976**	**13098**

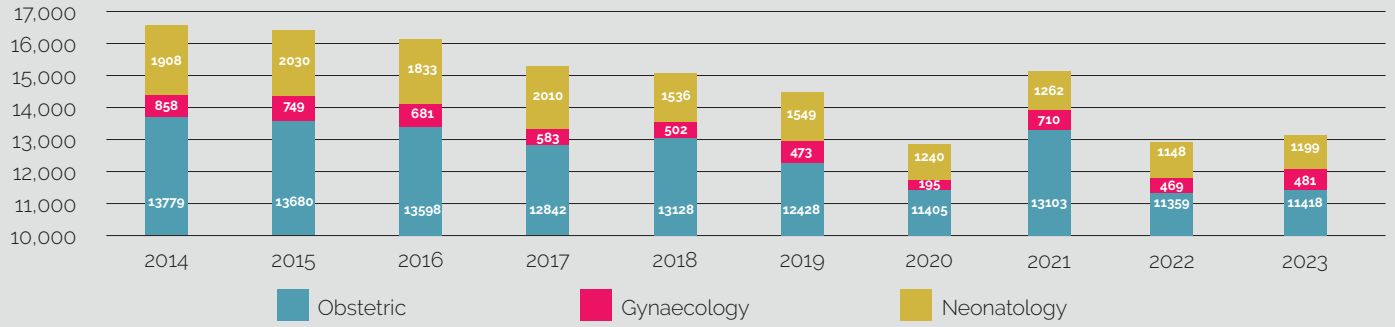
Day Cases

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Obstetric*	2232	2041	1879	2035	2014	2550	2466	1964	2239	2162
Gynaecology	1271	1412	1427	1380	1372	1114	531	865	1756	2223
Total	**3503**	**3453**	**3453**	**3415**	**3386**	**3664**	**2997**	**2829**	**3995**	**4385**

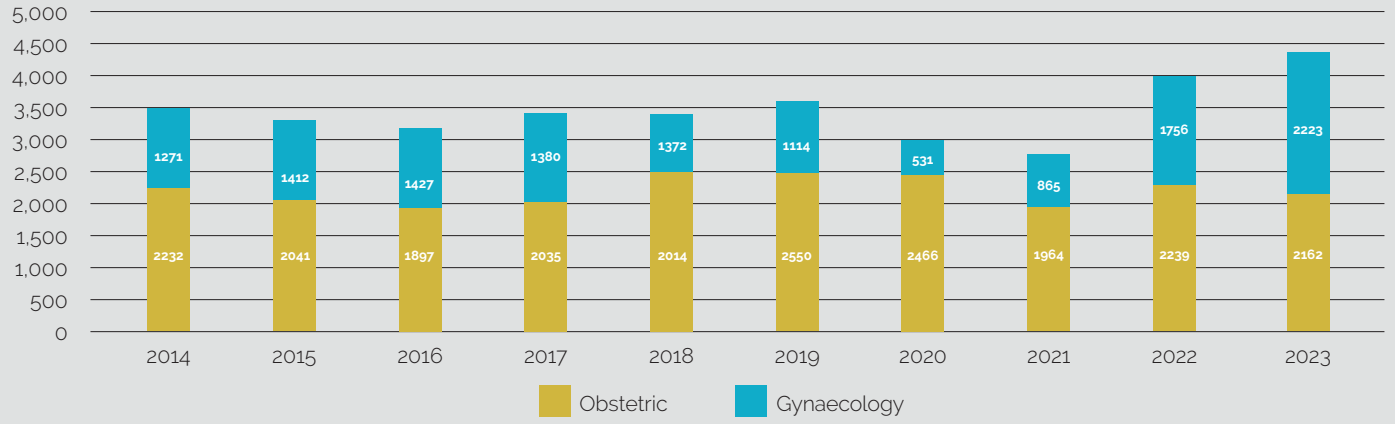
Emergency Room Attendances

	2018	2019	2020	2021	2022	2023
	13101	14146	11115	11442	11827	12006

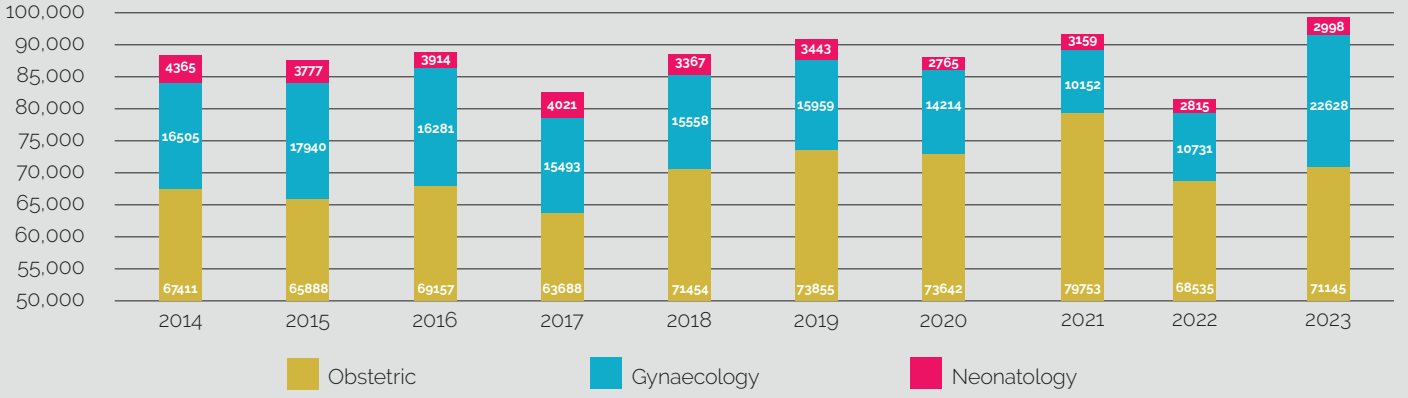
Inpatient Discharges



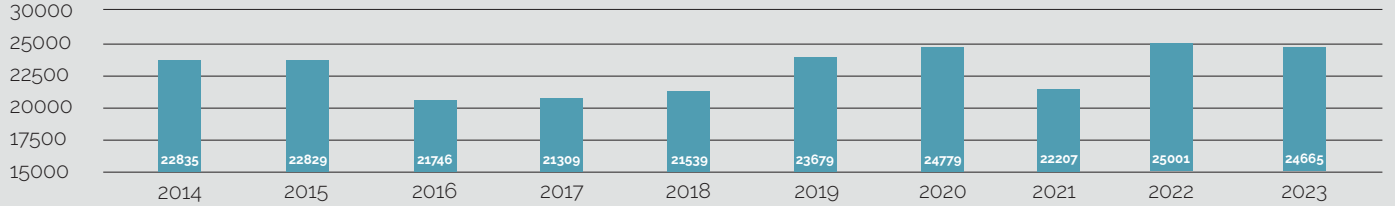
Day Cases



Outpatient Attendences



Fetal Medicine Department Attendances



Statistical Analysis Expressed As Percentages Over 10 Years

Age	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
< 20 years	0.7	1.0	0.8	1.8	0.7	0.6	0.6	0.4	0.5	0.7
20 - 24 years	5.3	5.1	5.5	4.0	4.1	4.2	4.4	4.2	4.3	4.3
25 - 29 years	15.3	14.7	15.8	12.0	12.0	12.6	11.6	11.0	12.4	11.6
30 - 34 years	39.9	38.4	40.9	36.8	33.5	34.5	34.8	34.5	34.6	34.8
35 - 39 years	31.9	33.1	32.9	36.8	37.9	38.5	37.9	39.2	36.6	36.9
40+ years	6.9	7.7	7.1	8.6	8.2	9.6	10.7	10.8	11.6	11.7
Not available	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0

Parity

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
0	44.3	44.2	43.8	44.0	42.0	43.4	44.1	42.4	42.7	45.6
1,2,3	60.8	60.0	60.4	60.2	56.3	55.0	54.1	56.2	55.8	52.8
4+	1.9	1.8	1.8	1.8	1.7	1.6	1.8	1.4	1.5	1.6

Birthweight

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<500g	n/a	n/a	n/a	n/a	0.1	0.0	0.1	0.0	0.1	0.1
500 - 999	0.6	0.4	0.6	0.6	0.7	0.8	0.8	0.8	0.8	1.0
1000 - 1499	0.7	0.7	0.7	1.0	0.6	0.7	0.8	0.6	0.8	0.7
1500 - 1999	1.2	1.4	1.4	1.3	1.6	1.0	1.3	1.2	1.4	1.2
2000 - 2499	3.1	3.1	2.6	3.1	2.9	2.7	3.0	3.2	2.9	3.5
2500 - 2999	10.3	10.6	10.5	10.3	10.1	10.5	11.0	10.2	12.4	12.0
3000 - 3499	29.5	30.0	30.3	30.1	30.1	30.8	29.6	32.2	33.2	33.4
3500 - 3999	35.6	35.3	36.2	35.7	35.2	35.0	36.2	35.2	33.7	34.3
4000 - 4499	15.8	15.3	14.9	15.0	14.9	15.7	14.7	13.9	12.7	11.7
4500 - 4999	2.9	2.9	2.6	2.7	2.8	2.5	2.3	2.4	1.9	1.9
5000+	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.1	0.2
Not available	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Not available	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0

Gestation

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
< 26 weeks	0.3	0.2	0.4	0.3	0.4	0.3	0.5	0.5	0.4	0.5
26 - 29 + 6 days	0.6	0.4	0.5	0.7	0.8	0.8	0.9	0.6	0.9	0.7
30 - 33 + 6 days	1.5	1.7	1.7	1.7	1.5	1.5	1.6	1.6	1.5	1.7
34 - 36 + 6 days	4.2	4.6	4.5	4.7	4.5	4.0	4.5	4.6	5.2	4.9
37 - 41 + 6 days	88.8	88.9	88.9	88.8	88.0	90.2	89.9	90.6	90.6	91.0
42 + weeks	4.6	4.2	4.0	3.8	4.0	3.2	2.6	2.1	1.4	1.3
Not available	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0

10 Year Comparative Table

Age	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Mothers Delivered (inc. < 500g)	10026	10092	9790	9357	8671	8700	8158	8567	7517	7559
Mothers Delivered (>= 500g and/or 24 wks)	9106	9186	8851	8433	7774	7871	7263	7694	6815	6764
Para 0	4034	4052	3878	3684	3271	3415	3201	3261	2911	3084
Para 1+	5072	5134	4973	4759	4503	4456	4062	4433	3904	3680
Nulliparous %	44.3	44.1	43.8	43.7	42.1	43.4	44.1	42.4	42.7	45.6
Maternal Mortality	0	0	1	0	0	0	0	0	0	1
Babies Born (>= 500g and/or 24 wks)	9309	9389	9037	7914	7914	8009	7402	7855	6948	6880
Perinatal Mortality*	55	59	53	60	60	74	66	64	53	42
Perinatal Mortality Rate	5.9	6.3	5.9	7.6	7.6	9.2	8.9	8.1	7.6	6.1
Congenital Anomalies	22	21	23	18	26	32	19	19	18	24
Corrected Perinatal Mortality Rate	3.6	4.1	3.3	5.3	4.3	5.3	6.4	5.7	5.1	2.6
Caesarean Section %	23.5%	25.9%	26.0%	27.2%	28.9%	30.3%	31.4%	31.3%	34.3%	36.1%
Operative Vaginal Delivery %	11.1%	12.7%	14.2%	13.0%	13.7%	12.5%	12.7%	12.3%	11.3%	12.1%
Normal Delivery %	65.4%	61.4%	59.8%	59.8%	57.0%	57.2%	55.9%	56.5%	54.4%	51.8%
Induction %**	27.1%	27.6%	28.6%	29.8%	27.8%	31.0%	34.0%	34.4%	38.3%	38.5%

COMPARATIVE TABLE OF PRE-VIABLE AND HYDATIDIFORM MOLES

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
others delivered <500g	920	834	842	828	808	809	798	761	632	705
Hydatidiform moles	23	11	27	27	29	14	31	44	24	34
Ectopic pregnancies	92	61	70	69	60	65	66	68	46	56

PERINATAL MORTALITY ANALYSIS

Births by Mothers' Age on Delivery	Perinatal Deaths	PNMs %	Rate per '000 Births	Total Births
20 years	1	2.4%	22.2	45
20 - 24 years	0	0.0%	0.0	295
25 - 29 years	5	11.9%	6.3	796
30 - 34 years	13	31.0%	5.4	2387
35 - 39 years	20	47.6%	7.8	2553
40 + years	3	7.1%	3.7	804
Total	**42**			**6880**

Births by Parity				
0	17	40.5%	5.4	3139
1,2,3	24	57.1%	6.6	3628
4+	1	2.4%	8.8	113
Total	**42**			**6880**
Birthweight				
<500	3	7.1%	428.6	7
500 - 999g	22	52.4%	328.4	67
1000 - 1499g	4	9.5%	87.0	46
1500 - 1999g	1	2.4%	12.0	83
2000 - 2499g	6	14.3%	24.9	241
2500 - 2999g	2	4.8%	2.4	824
3000 - 3499g	1	2.4%	0.4	2300
3500 - 3999g	2	4.8%	0.8	2363
4000 - 4499g	0	0.0%	0.0	805
4500 - 4999g	1	2.4%	7.5	133
5000g +	0	0.0%	0.0	11
Total	**42**			**6880**
Gestation				
< 26 weeks	15	35.7%	441.2	34
26 - 29 + 6 days	10	23.8%	212.8	47
30 - 33 + 6 days	4	9.5%	34.5	116
34 - 36 + 6 days	5	11.9%	14.9	335
37 - 41 + 6 days	8	19.0%	1.3	6259
42 + weeks	0	0.0%	0.0	89
Total	**42**			**6880**

10 YEAR ANALYSIS OF PERINATAL MORTALITY

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Perinatal Deaths	**55**	**59**	**60**	**60**	**60**	**74**	**66**	**64**	**53**	**42**
PNMR per '000 Births	5.9	6.3	5.9	7.6	7.6	9.2	8.9	8.1	7.6	6.1
Antepartum Deaths	**23**	**24**	**19**	**26**	**27**	**29**	**35**	**27**	**19**	**10**
Percentage of Total	41.8	40.7	35.8	43.3	45.0	39.2	53.0	42.2	35.8	23.8
Intrapartum Deaths	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Percentage of Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Early Neonatal Deaths	**10**	**14**	**11**	**9**	**7**	**13**	**12**	**18**	**16**	**8**
Percentage of Total	18.2	23.7	20.8	16.7	11.7	17.6	18.2	28.1	30.2	19.0
Congenital Anomalies	**22**	**21**	**23**	**19**	**26**	**32**	**19**	**19**	**18**	**24**
Percentage of Total	40.0	35.6	43.4	35.2	43.3	43.2	28.8	29.7	34.0	57.1

Infants whose birthweight was >=500g and/or with EGA >=24 wks and liveborn infants who died within 7 days.

10 YEAR ANALYSIS OF PERINATAL MORTALITY EXCLUDING CONGENITAL ANOMALIES

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Births >=500g and/or >=24 wks	9309	9389	9037	8619	7914	8009	7402	7855	6948	6880
Births >=500g and/or >=24 wks less lethal congenital anomalies	9287	9368	9014	8600	7888	7977	7383	7836	6930	6856
Stillbirths	23	24	19	26	27	29	35	27	19	10
Stillbirth rate per '000 births	2.5	2.6	2.1	3.0	3.4	3.6	4.7	3.4	2.7	1.5
Early Neonatal Deaths	10	14	11	9	7	13	12	18	16	8
ENND rate per '000 births	1.1	1.5	1.2	1.0	0.9	1.6	1.6	2.3	2.3	1.2
Total Perinatal Mortality	**33**	**38**	**30**	**34**	**34**	**42**	**47**	**45**	**35**	**18**
Corrected Perinatal Mortality Rate	3.6	4.1	3.3	4.0	4.3	5.3	6.4	5.7	5.1	2.6

** Revised for 2023 report.*

DUBLIN MATERNITY HOSPITALS COMPARATIVE TABLES

Table 1: Patients Attending	
Mothers Delivered >= 500g	6764
Mothers Delivered < 500g	705
Ectopic Pregnancies	34
Hydatidiform Moles	56
based on histologically confirmed samples	**7559**

Table 2: Maternal Deaths	1

Table 3: Babies Born (24 wks EGA and/or >= 500g)	
Singletons	6653
Twins	106
Triplets	5
Quadruplets	0
Total Births	**6764**

Table 4: Obstetric Outcome	**%**
Spontaneous Vaginal Delivery	51.8%
Forceps	1.7%
Ventouse	9.4%
Ventouse/Forceps	1.0%
Total Operative	12.1%
Caesarean Section	36.1%
	100%
Indroduction	2603 (38.5%)

Table 5: Perinatal Deaths	
Antepartum Deaths	10
Intrapartum Deaths	0
Total Stillbirths	*10*
Early Neonatal Deaths	8
Congenital Anomalies (SBs and ENNDs)	24
Total Perinatal Deaths	**42**
Total External Referrals	16
Total External Referrals (Excluding CA)	7
Late Neonatal Deaths	11

Table 6: Perinatal Mortality Rates		
Overall Perinatal Mortality Rate per 1000 births	42/6880	6.1
Perinatal Mortality Rate corrected for lethal congenital anomalies (24)	18/6856	2.6
Perinatal Mortality Rate corrected for external referrals (7) and lethal congenital anomalies (24)	11/6849	*1.6*
Overall Perinatal Mortality Rate including late neonatal deaths (11)	53/6880	7.7
Overall Perinatal Mortality Rate excluding external referrals (16)	26/6864	3.8
Perinatal Mortality Rate corrected for lethal congenital anomalies (24) and excluding early deaths and stillbirth external referrals (7)	11/6849	1.6

11 Late Neonatal Deaths and 4 Early/Late Infant Deaths
External referrals = 16: 9 anomalies, 7 normally formed

Table 7: Age of Mothers Delivered	Nullip	Multip	Total	%
< 20 yrs	43	2	45	0.7%
20 - 24 yrs	199	91	290	4.3%
25 - 29 yrs	480	305	785	11.6%
30 - 34 yrs	1316	1041	2357	34.8%
35 - 39 yrs	812	1685	2497	36.9%
40 + yrs	234	556	790	11.7%
Total	**3084**	**3680**	**6764**	**100.0%**

Table 8: Parity of Mothers Delivered	Total	%
Para 0	3084	45.6%
Para 1, 2, 3	3570	52.8%
Para 4+	110	1.6%
Total	**6764**	**100.0%**

Table 9: Body Mass Index (WHO ranges)	Total	%
Underweight: <18.5	81	1.2%
Healthy: 18.5 - 24.9	3170	46.9%
Overweight: 25 - 29.9	1779	26.3%
Obese class 1: 30 - 34.9	681	10.1%
Obese class 2: 35 - 39.9	276	4.1%
Obese class 3: >40	95	1.4%
Not Recorded	682	10.1%
Total Deliveries	**6764**	**100.0%**

Table 10: Ethnicity of Mothers Delivered	Total	%
Irish	4461	66.0%
Any other White background	1140	16.9%
Any other Asian background	561	8.3%
Any other Black background	125	1.8%
Other including Mixed Background	191	2.8%
Irish Traveller	33	0.5%
Not Known	253	3.7%
Total Deliveries	**6764**	**100.0%**

Table 11: Birthweight of Babies Born	Nullip	Multip	Total	%
500g	4	3	7	0.1%
500 - 999g	37	30	67	1.0%
1,000 - 1,499g	31	15	46	0.7%
1,500 - 1,999g	34	49	83	1.2%
2,000 - 2,499g	133	108	241	3.5%
2,500 - 2,999g	427	397	824	12.0%
3,000 - 3,499g	1122	1178	2300	33.4%
3,500 - 3,999g	1009	1354	2363	34.3%
4,000 - 4,499g	291	514	805	11.7%
4,500 - 4,999g	44	89	133	1.9%
5,000g +	7	4	11	0.2%
Total	**3139**	**3741**	**6880**	**100%**

Table 12: Sex of Babies Born	Nullip	Multip	Total	%
Male	1653	1860	3513	51.1%
Female	1486	1880	3366	48.9%
Not determined	0	1	1	0.0%
Total Babies Born	**3139**	**3741**	**6880**	**100%**

Table 13: Gestational Age of Babies Born	Nullip	Multip	Total	%
< 26 weeks	17	17	34	0.5%
26 - 29 + 6 days	27	20	47	0.7%
30 - 33 + 6 days	54	62	116	1.7%
34 - 36 + 6 days	166	169	335	4.9%
37 - 41 + 6 days	2800	3459	6259	91.0
42 + weeks	75	14	89	1.3%
Total Babies Born	**3139**	**3741**	**6880**	**100.0%**

Table 14: Perineal Trauma after Spontaneous and Operative Vaginal Delivery (SVD & OVD)			
	Nullip	**Multip**	**Overall**
Episiotomy	1081	259	1340
Incidence % of OVDs	57.2%	10.6%	31.0%
First Degree Tear	165	585	750
Incidence % of OVDs	8.7%	24.1%	17.4%
Second Degree Tear	439	789	1228
Incidence % of OVDs	23.2%	32.4%	28.4%
Third Degree Tear*	65	32	97
Incidence % of OVDs	3.4%	1.3%	2.2%
Fourth Degree Tear	1	0	1
Incidence % of OVDs	0.1%	0.0%	0.0%
Intact	138	767	905
Incidence % of OVDs	7.3%	31.5%	20.9%
Total Vaginal Deliveries	**1889**	**2432**	**4321**

**include Episiotomy with sphincter damage (n=12)*

Table 14(a): Perineal Trauma after Spontaneous Vaginal Delivery (SVD)			
	Nullip	**Multip**	**Overall**
Episiotomy	39.7%	7.3%	648
Incidence % of OVDs	157	571	18.5%
First Degree Tear	12.9%	25.0%	728
Incidence % of OVDs	401	766	20.8%
Second Degree Tear	33.0%	33.5%	1167
Incidence % of OVDs	43	32	33.3%
Third Degree Tear*	3.5%	1.4%	75
Incidence % of OVDs	1	0	2.1%
Fourth Degree Tear	0.1%	0.0%	1
Incidence % of OVDs	0.1%	0.0%	0.0%
Intact	131	767	883
Incidence % of OVDs	10.8%	32.9%	25.2%
Total Spontaneous Vaginal Deliveries	**1215**	**2287**	**3502**

**include Episiotomy with sphincter damage (n=1)*

Table 14(b): Perineal Trauma after Operative Vaginal Delivery (OVD)			
	Nullip	**Multip**	**Overall**
Episiotomy	599	93	692
Incidence % of OVDs	88.9%	64.1%	84.5%
First Degree Tear	8	14	22
Incidence % of OVDs	1.2%	9.7%	2.7%
Second Degree Tear	38	23	61
Incidence % of OVDs	5.6%	15.9%	7.4%
Third Degree Tear*	22	0	22
Incidence % of OVDs	3.3%	0.0%	2.7%
Fourth Degree Tear	0	0	0
Incidence % of OVDs	0.0%	0.0%	0.0%
Intact	7	15	22
Incidence % of OVDs	1.0%	10.3%	2.7%
Total Operative Vaginal Deliveries	**674**	**145**	**819**

**includes Episiotomy with sphincter damage (n=11)*

Table 15: Severe Maternal Morbidity	
Major Obstetric Haemorrhage	14
Uterine Rupture	1
Peripartum Hysterectomy	3
Eclampsia	1
Renal / Liver Dysfunction	5
Pulmonary Oedema	0
Acute Respiratory Dysfunction	0
Pulmonary Embolism	5
Cardiac Arrest	1
Coma	0
Cerebral Vascular Accident	0
Status Epilepticus	0
Septic Shock	1
Anaesthetic Problems	0
ICU/CCU admission	7
Interventional Radiology	3
Total	**36 patients 41 SMM events**

Some women had more than one SMM – in this table only the major SMM is reported

Table 16: Neonatal Encephalopathy		
	Inborn	**Outborn**
Neonatal Encephalopathy - with HIE	2	3
Neonatal Encephalopathy - no HIE	2	0
Seizures – No Encephalopathy	1	1
Therapeutic Hypothermia	**4**	**3**

Theatre Procedures

Procedures, not patients. A patient may have more than on procedure in an overall operation.

Emergency caesarean section	1290
Elective lower segment caesarean section	1131
ERPC Antenatal	484
Hysteroscopy D&C +/- Mirena Insertion	400
Hysteroscopy	322
Perineal repair	259
Diagnostic laparoscopy	169
Manual removal of placenta	134
Cystoscopy	125
IUCD - Fitting of Intrauterine Contracep	119
Examination under anaesthesia	117
Injection of Nerve Block	98
Injection of urethral bulking agent	72
Truclear polypectomy	70
Dye injection at laparoscopy	63
Salpingectomy	59
Laparoscopic treatment of ectopic pregnancy	57
Botox injection therapy	52
IUCD removal/change/correction	52
Polypectomy	51
Endometrial ablation	42
Salpingo-oophorectomy	36

Diathermy of Endometriosis	24
Vaginal hysterectomy	23
McDonald's cervical cerclage	23
Ovarian cystectomy- laparoscopy	21
Marsupialization of Bartholin's cyst/abs	21
Cystectomy	20
Cervical smear	20
Operative Laparoscopy	19
ERPC Postnatal	18
Blood Patch	17
Elective Caesarean Section and Tubal Lig	16
Endometrial biopsy	15
Laparotomy	14
Bilateral tubal ligation	14
Total Laparoscopic Hysterectomy	14
Hysteroscopic myomectomy	13
Laparoscopic hysterectomy	12
Fenton's procedure	11
Laser procedure for Twin to twin transfusion	10
ERPC - Molar	10
Others (<10)	344
Total	**5966**

Sustainability Report

Context and Purpose

The National Maternity Hospital aims to be a sustainable organisation. Our ambition is to create a net-zero emissions hospital, and we've already taken steps to address our carbon footprint. The purpose is to provide exceptional healthcare services and to do so in a manner that preserves our planet for future generations.

We operate within a dynamic landscape, where global challenges such as climate change, resource scarcity, and waste management demand urgent attention.

Sustainability is not an isolated endeavour; it spreads through every facet of our hospital—from patient care to management. We embrace transparency in our operations. Our governance structure ensures accountability, and we actively engage with stakeholders.

In January 2023, the Executive Management Committee established the Environmental Committee, comprising of staff from both clinical and non-clinical departments. The Committee meets regularly to coordinate and target environmental initiatives in the hospital. We actively engage with our own staff, suppliers and share learnings across the broader healthcare network.

Ireland has committed to a 50% reduction in greenhouse gas (GHG) carbon emissions by 2030 and achieving net-zero emissions by 2050 at the latest. Our ambition is to align with these national sustainability goals. Two documents of specific relevance for us are The Public Sector Climate Action Plan and the HSE Climate Action Strategy, to which we will reference our work going forward. A tracker document has been introduced, structured according to Environment, Social, Governance principles (ESG), HSE Climate Action Strategy and the Sustainable Development Goals of the United Nations (SDG).

Key Initiatives

Carbon Footprint Reduction: We have implemented energy-efficient practices (PIR sensors, LED lights), explored renewable energy sources and optimised waste management.

Collaboration: We foster partnerships with suppliers, fellow healthcare institutions, and community organisations. Together, we share knowledge and drive positive change.

Education and Awareness: Our staff, patients, and visitors play pivotal roles. We educate, advocate, and inspire sustainable behaviours. Sustainability has been introduced in our mandatory training and will be part of induction as well.

Waste management: We have improved our waste management infrastructure by introducing more user-friendly bins in parts of the hospital. The ambition is to continue the change across the entire campus. We have managed to exchange some of the single use plastic bottles to re-usable plastic bottles in lactation, laboratory and pharmacy.

Re-usable items: A long-term work has started in clinical areas to reduce use of single-use items and move to re-usable items. A symbolic start was the recycling of ligasures (electrosurgical device) in Theatre. Ligasures are now being sold back to a company that upscale them for reuse.

Certification: The Laboratory applied for Green Lab status and the Catering Department retained the ISO 22000:2018 Food Safety Management Systems certification. The Department was also finalist in the Irish Hotel and Catering Awards Gold medal awards for the healthcare section.

Digitisation: We have started the process of moving from paper based to digital for certain processes, both internally and externally with third parties. That will continue going forward. Laptops have been issued to a large number of employees which facilitates for blended working as well as a more digital meeting structure in the hospital. The reduction of the vast number of printers have started and the remaining printers will be using recycled paper.

Blended working: Several departments have introduced a formal blended working scheme which reduces commuting as well as promoting a better life work balance for staff.

Telemedicine: Virtual clinics were originally introduced during the Covid pandemic and have continued where possible, given the positive effects from a sustainability perspective.

Challenges and Opportunities

While progress has been made, challenges persist. We will continue to get staff involved all around the hospital. Balancing patient care, health and safety, infection control and efficiency with environmental impact requires creativity and resilience. This Sustainability Report sets the stage. We commit to annual updates and tracking our progress. Our journey towards sustainability has only started.

Carl Alfvag, Chair of the Environmental Committee.

Healthy Ireland

Helen McCrimmon, Amanda O'Connor, Sarah McCourt, Helen Gannon and Jane McKenna at the NMH Staff 80's themed BBQ!

The Healthy Ireland (HI) Group at The National Maternity Hospital (NMH) aims to support staff and patient wellbeing under the pillars of the national HI program.

The NMH adopted the updated Ireland East Hospital Group (IEHG) Healthy Ireland implementation plan for 2023-2027 for each of these pillars, and our action plan for up to the end of 2024 was formulated.

Many of the HI themes are incorporated into patient care in practice at the NMH, such as the Smoke Free Campus, with input available for women from specialist staff in breastfeeding, smoking cessation, antenatal nutrition, activity, mental health and wellbeing. Making Every Contact Count (MECC) for health promotion is routinely included in antenatal clinic assessments.

For staff, the NMH provides access to BeneKit Wellbeing App and toolkit and runs events throughout the year with information stands, quizzes and spot prizes for participants. The HI events calendar for staff is now available on the NMH Staff App.

Highlights for 2023 included:

- Staff Wellbeing Day - HR
- Marchathon and Walktober challenges - Helen McCrimmon
- Nutrition and Hydration week (March)
- Nutrition & Hydration information posters campaign (from September)
- Staff feedback survey completed
- Irish Heart Foundation Gold Award achieved for staff canteen (upgraded from Silver)
- World Diabetes Day stand - Diabetes team
- Light up your Life – bike lights from the NMH Bike Fairy!

Many thanks to the HI group members who give their time to plan and implement these and other initiatives, and to staff who participate and support positive health promotion for patients and colleagues.

The HI Committee.

Publications and Presentations

UCD Obstetrics & Gynaecology

Feehily C, O'Neill IJ, Walsh CJ, Moore RL, Killeen SL, Geraghty AA, Lawton EM, Byrne D, Sanchez-Gallardo R, Nori SRC, Nielsen IB, Wortmann E, Matthews E, O'Flaherty R, Rudd PM, Groeger D, Shanahan F, Saldova R, McAuliffe FM, Van Sinderen D, Cotter PD. Detailed mapping of Bifidobacterium strain transmission from mother to infant via a dual culture-based and metagenomic approach. Nat Commun. 2023 May 25;14(1):3015. doi: 10.1038/s41467-02338694-0.

Moore RL, Feehily C, Killeen SL, Yelverton CA, Geraghty AA, Walsh CJ, O'Neill IJ, Nielsan IB, Lawton EM, Gallardo RS, Nori SRC, Shanahan F, Murphy EF, Van Sinderen D, Cotter PD, McAuliffe FM. Ability of Bifidobacterium breve 702258 to transfer from mother to infant: the MicrobeMom randomised controlled trial. Am J Obstet Gynecol MFM. 2023 May 2:100994. doi: 10.1016/j.ajogmf.2023.100994. Online ahead of print.PMID: 37142190

Killeen SL, Mealy G, Brennan K, Cotter PD, Yelverton C, Saldova R, Groeger D, VanSinderen D, Doyle S, McAuliffe FM. Impact of Bifidobacterium longum1714® on maternal cytokine response in peripheral blood mononuclear cells. Cytokine. 2023 Dec 9;174:156458. doi: 10.1016/j.cyto.2023.156458.

Yelverton CA, Killeen SL, Feehily C, Moore RL, Callaghan SL, Geraghty AA, Byrne DF, Walsh CJ, Lawton EM, Murphy EF, Van Sinderen D, Cotter PD, McAuliffe FM. Maternal breastfeeding is associated with offspring microbiome diversity; a secondary analysis of the MicrobeMom randomized control trial. Front Microbiol. 2023 Aug 31;14:1154114. doi: 10.3389/fmicb.2023.1154114. eCollection 2023.

Callanan S, Killeen SL, Delahunt A, Cooney N, Cushion R, McKenna MJ, Crowley RK, Twomey PJ, Kilbane MT, McDonnell CM, Phillips CM, Cody D, McAuliffe FM. The impact of macrosomia on cardiometabolic health in preteens: findings from the ROLO longitudinal birth cohort study. Nutr Metab (Lond). 2023 Sep 4;20(1):37. doi: 10.1186/s12986-023-00759-8.

Geraghty AA, O'Brien EC, Callanan S, Mehegan J, McAuliffe FM. Cardiovascular fitness is associated with child adiposity at 5 years of age: findings from the ROLO longitudinal birth cohort study. BMC Pediatr. 2023 Jul 8;23(1):345. doi: 10.1186/s12887-02304157-0

Tan ML, Mohd Shukri IA, Ho JJ, O'Sullivan EJ, Omer-Salim A, McAuliffe FM. What makes a city 'breastfeeding-friendly'? A scoping review of indicators of a breastfeeding-friendly city. Matern Child Nutr. 2023 Dec 15:e13608. doi: 10.1111/mcn.13608.

Cetin I, Carlson SE, Burden C, Fonseca EBD, Renzo GCD, Hadjipanayis A, Harris WS, Kumar KR, Olsen SF, Mader MS, McAuliffe FM, Muhlhausler B, Oken E, Poon LC, Poston L, Ramakrishnan U, Roehr CC, Savona-Ventura C, Smuts CM, Sotiriadis A, Su KP, Tribe RM, Vannice G, Koletzko B. Omega-3 fatty acid supply in pregnancy for risk reduction of preterm and early preterm birth. Am J Obstet Gynecol MFM. 2023 Dec 7:101251. doi: 0.1016/j.ajogmf.2023.101251.

O'Toole F, Sheane R, Reynaud N, McAuliffe FM, Walsh JM. Screening and treatment of iron deficiency anemia in pregnancy: A review and appraisal of current international guidelines.
Int J Gynaecol Obstet. 2023 Dec 9. doi: 10.1002/ijgo.15270

Corbett G, Windrim C, Higgins S, McAuliffe F, Wilkinson M, O'Brien D, Corcoran S. Laparoscopic Pre-pregnancy Trans-Abdominal Cerclage: Operative and Pregnancy Outcomes for a Novel Technique for Suture Placement Using Port Closure Device. Am J Obstet Gynecol. 2023 Dec 6:S0002-9378(23)02119-1. doi: 10.1016/j.ajog.2023.12.002. Online ahead of print.

O'Reilly SL, McAuliffe FM, Geraghty AA, Burden C, Davies A Implementing weight management during and after pregnancy to reduce diabetes and cardiovascular disease risk in maternal and child populations. Proc Nutr Soc. 2023 Dec 1:1-29. doi: 10.1017/S0029665123004883.

Nori SRC, McGuire TK, Lawton EM, McAuliffe FM, Sinderen DV, Walsh CJ, Cotter PD, Feehily C. Profiling of vaginal Lactobacillus jensenii isolated from preterm and full-term pregnancies reveals strain-specific factors relating to host interaction. Microb Genom. 2023 Nov;9(11). doi: 10.1099/mgen.0.001137.

Yelverton CA, O'Keeffe LM, Bartels HC, McDonnell C, Geraghty AA, O'Brien EC, Killeen SL, Twomey P, Kilbane M, Crowley RK, McKenna M, McAuliffe FM Association between maternal blood lipids during pregnancy and offspring growth trajectories in a predominantly macrosomic cohort: findings from the ROLO longitudinal birth cohort study. .Eur J Pediatr. 2023 Oct 11. doi: 10.1007/s00431-023-05251-2

O'Reilly SL, Laws R, Maindal HT, Teede H, Harrison C, McAuliffe FM, Geraghty A, Campoy C, Bermúdez MG, Pirhonen L, Burden C, Davies A, Laursen DH, Skinner T; IMPACT DIABETES B2B Consortium. A Complex mHealth Coaching Intervention to Prevent Overweight, Obesity, and Diabetes in High-Risk Women in Antenatal Care: Protocol for a Hybrid Type 2 Effectiveness-Implementation Study. .JMIR Res Protoc. 2023 Sep 18;12:e51431. doi: 10.2196/51431.

Lee SA, Corbett GA, McAuliffe FM. Obstetric care for environmental migrants. Ir J Med Sci. 2023 Sep 16. doi: 10.1007/s11845-02303481-9.

McGovern L, Geraghty A, McAuliffe F, O'Reilly S. An exploration of prenatal breastfeeding self-efficacy: a scoping review protocol. Open Res Eur. 2023 Jan 24;2:91. doi: 10.12688/openreseurope.14938.3. eCollection 2022

Yelverton CA, Geraghty AA, O'Brien EC, Killeen SL, Larkin E, Mehegan J, Cronin M, McAuliffe FM. Maternal Well-Being in Pregnancy and Breastfeeding Practices: Findings from the ROLO

Study. Am J Perinatol. 2023 Aug 14. doi: 10.1055/s-00431772230.

Nguyen-Hoang L, Smith GN, Bergman L, McAuliffe FM, Poon LC; FIGO Committee on the Impact of Pregnancy on Long-Term Health* and the FIGO Division of Maternal and Newborn Health.FIGO pregnancy passport: A useful tool for women and their healthcare providers on health risks following pregnancy complications. Int J Gynaecol Obstet. 2023 Jul 24. doi: 10.1002/ijgo.15029

Kovács Z, Reidy F, Glover L, McAuliffe FM, Stockmann H, Kilbane MT, Twomey PJ, Peters M, Saare M, Rudd PM, Utt M, Wingfield M, Salumets A, Saldova R N-glycans from serum IgG and total serum glycoproteins specific for endometriosis. . Sci Rep. 2023 Jun 28;13(1):10480. doi: 10.1038/s41598-023-37421-5.

Gainfort A, Delahunt A, Killeen SL, O'Reilly SL, Hébert JR, Shivappa N, McAuliffe FM. Energy-Adjusted Dietary Inflammatory Index in pregnancy and maternal cardiometabolic health: findings from the ROLO study. AJOG Glob Rep. 2023 Apr 24;3(2):100214. doi: 10.1016/j.xagr.2023.100214.

Cauldwell M, Adamson D, Batia K, Bhagra C, Bolger A, Everett T, Fox C, Girling J, Head C, English K, Hudsmith L, James R, Johnson M, MacKiliop L, McAuliffe FM, Mariappa G, Orchard E, O'Brien M, Siddiqui F, Simpson L, Simpson M, Timmons P, Vause S, Wander G, Walker N, Steer PJ Direct current cardioversion in pregnancy: a multicentre study. BJOG. 2023 Apr 11. doi: 10.1111/1471-0528.17457.

Killeen SL, Callaghan SL, O'Reilly SL, McAuliffe FM. Pregnancy Nutrition Core Outcome Set (PRENCOS): A core outcome set development study. BJOG. 2023 Apr 5. doi: 10.1111/1471-0528.17470.

O'Keeffe LM, Yelverton CA, Bartels HC, O'Neill KN, McDonnell C, McAuliffe FM. Application of multilevel linear spline models for analysis of growth trajectories in a cohort with repeat antenatal and postnatal measures of growth: a prospective cohort study. BMJ Open. 2023 Mar 27;13(3):e065701. doi: 10.1136/bmjopen-2022-065701

Cody F, Unterscheider J, Daly S, Geary M, Kennelly M, McAuliffe F, Morrison J, O'Donoghue K, Hunter A, Dicker P, Tully E, Fhearaigh R, Malone F; Perinatal Ireland Research Consortium. Dynamic growth changes in fetal growth restriction using serial ultrasonographic biometry and umbilical artery doppler: The multicenter PORTO study. Int J Gynaecol Obstet. 2023 Apr;161(1):198-203. doi: 10.1002/ijgo.14470

Bartels HC, O'Keeffe LM, Yelverton CA, O'Neill KN, Geraghty AA, O'Brien EC, Killeen SL, McDonnell C, McAuliffe FM. Associations between maternal metabolic parameters during pregnancy and fetal and child growth trajectories from 20 weeks' gestation to 5 years of age: Secondary analysis from the ROLO longitudinal birth cohort study. Pediatr Obes. 2023 Jan;18(1):e12976

Ryan G, Rafferty A, Murphy J, Higgins MF, Mangina E, McAuliffe FM. Virtual reality learning: A randomized controlled trial assessing medical student knowledge of fetal development. Int J Gynaecol Obstet. 2023 Mar 8. doi: 10.1002/ijgo.14684.

Du Y, McNestry C, Wei L, Antoniadi AM, McAuliffe FM, Mooney C. Machine learning-based clinical decision support systems for pregnancy care: A systematic review. Int J Med Inform. 2023 Mar 8;173:105040. doi: 10.1016/j.ijmedinf.2023.105040.

Philippe K, Teo S, Perrotta C, McAuliffe FM,Phillips CM.Why do preconception and pregnancy lifestyle interventions show little evidence of success in preventing overweight and obesity in children? A scoping review. Lancet Glob Health. 2023 Mar;11 Suppl 1:S20. doi: 10.1016/S2214-109X(23)00103-1.

Choedon T, Sethi V, Killeen SL, Ganjekar S, Satyanarayana V, Ghosh S, Jacob CM, McAuliffe FM, Hanson MA, Chandra P. Integrating nutrition and mental health screening, risk identification and management in antenatal health programmes in India. Int J Gynaecol Obstet. 2023 Feb 19. doi: 10.1002/ijgo.14728

Du Y, Rafferty AR, McAuliffe FM, Mehegan J, Mooney C.Towards an explainable clinical decision support system for large-for-gestational-age births. PLoS One. 2023 Feb 21;18(2):e0281821. doi: 10.1371/journal.pone.0281821

McNestry C, Killeen SL, Crowley RK, McAuliffe FM Pregnancy complications and later life women's health. Acta Obstet Gynecol Scand. 2023 Feb 17. doi: 10.1111/aogs.14523.

Delahunt A, Callanan S, Killeen SL, McDonnell CM, McAuliffe FM. Including the child's voice in research from a longitudinal birth cohort: insights from the ROLO young person's advisory group. Res Involv Engagem. 2023 Feb 9;9(1):2. doi: 10.1186/s40900-023-00411-y

Rooney DJ, Conway M, O'Keeffe LM,McDonnell CM, Bartels HC, Yelverton C, Segurado R, Mehegan J, McAuliffe FM. Dietary intakes of iron, folate, and vitamin B12 during pregnancy and correlation with maternal hemoglobin and fetal growth: findings from the ROLO longitudinal birth cohort study. Arch Gynecol Obstet. 2023 Jan 28. doi: 10.1007/s00404-023-06916-x

McAuliffe FM. Impact of pregnancy on long-term health: Advances in postpregnancy care-An opportunity to improve long-term maternal health. Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:4-6. doi: 10.1002/ijgo.14536.

Soepnel LM, Draper CE, Mabetha K, Mogashoa L, Mabena G, McAuliffe FM, Killeen SL, Jacob CM, Hanson MA, Norris SA Evaluating implementation of the FIGO Nutrition Checklist for preconception and pregnancy within the Bukhali trial in Soweto, South Africa.. Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:68-79. doi: 10.1002/ijgo.14541

Hypertensive disorders of pregnancy and long-term cardiovascular health: FIGO Best Practice Advice.
Poon LC, Nguyen-Hoang L, Smith GN, Bergman L, O'Brien P, Hod M, Okong P, Kapur A, Maxwell CV, McIntyre HD, Jacobsson B, Algurjia E, Hanson MA, Rosser ML, Ma RC, O'Reilly SL, Regan L, Adam S, Medina VP, McAuliffe FM; FIGO Committee on Impact of Pregnancy on Long-term Health and the FIGO Division of Maternal and Newborn Health.Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:22-34. doi: 10.1002/ijgo.14540.

The challenges of obesity for fertility: A FIGO literature review.
Gautam D, Purandare N, Maxwell CV, Rosser ML, O'Brien P, Mocanu E, McKeown C, Malhotra J, McAuliffe FM; FIGO Committee on Impact of Pregnancy on Long-term Health and the FIGO Committee on Reproductive Medicine, Endocrinology and Infertility.Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:50-55. doi: 10.1002/ijgo.14538.

Management of obesity across women's life course: FIGO Best Practice Advice.
Maxwell CV, Shirley R, O'Higgins AC, Rosser ML, O'Brien P, Hod M, O'Reilly SL, Medina VP, Smith GN, Hanson MA, Adam S, Ma RC, Kapur A, McIntyre HD, Jacobsson B, Poon LC, Bergman L, Regan L, Algurjia E, McAuliffe FM; FIGO Committee on Impact of Pregnancy on Long-term Health and the FIGO Division of Maternal and Newborn Health.Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:35-49. doi: 10.1002/ijgo.14549.

Pregnancy as an opportunity to prevent type 2 diabetes mellitus: FIGO Best Practice Advice.
Adam S, McIntyre HD, Tsoi KY, Kapur A, Ma RC, Dias S, Okong P, Hod M, Poon LC, Smith GN, Bergman L, Algurjia E, O'Brien P, Medina VP, Maxwell CV, Regan L, Rosser ML, Jacobsson B, Hanson MA, O'Reilly SL, McAuliffe FM; FIGO Committee on the Impact of Pregnancy on Long-term Health and the FIGO Division of Maternal and Newborn Health. Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:56-67. doi: 10.1002/ijgo.14537Using FIGO Nutrition Checklist counselling in pregnancy: A review to support healthcare professionals.
Killeen SL, Donnellan N, O'Reilly SL, Hanson MA, Rosser ML, Medina VP, Jacob CM, Divakar H, Hod M, Poon LC, Bergman L, O'Brien P, Kapur A, Jacobsson B, Maxwell CV, McIntyre HD, Regan L, Algurjia E, Ma RC, Adam S, McAuliffe FM; FIGO Committee on Impact of Pregnancy on Long-term Health and the FIGO Division of Maternal and Newborn Health.Int J Gynaecol Obstet. 2023 Jan;160 Suppl 1:10-21. doi: 10.1002/ijgo.14539.

Bartels HC, Walsh JM, O'Connor C, McParland P, Carroll S, Higgins S, Mulligan KM, Downey P, Brophy D, Colleran G, Thompson C, Walsh T, O'Brien DJ, Brennan DJ, McVey R, McAuliffe FM, Donnelly J, Corcoran SM.Placenta accreta spectrum ultrasound stage and fetal growth. Int J Gynaecol Obstet. 2023 Mar;160(3):955-961.

Gautam D, Ryan GA, McAuliffe FM, Purandare N Armed conflict-Women: Most affected but least responsible. Int J Gynaecol Obstet. 2023 Feb;160(2):450-451.

O'Reilly SL, Conway MC, O'Brien EC, Molloy E, Walker H, O'Carroll E, McAuliffe FM.Exploring Successful Breastfeeding Behaviors Among Women Who Have High Body Mass Indices.
J Hum Lact. 2023 Feb;39(1):82-92.

Windrim C, Ryan G, Rojas D, Montero D, Higgins M, Windrim R. Remote hands-on training with a novel "video-game" simulator for teaching fetoscopic laser techniques for ablation of placental anastomoses in twin to twin syndrome. Prenatal diagnosis. 2023.

Dempsey B, Connolly M, Higgins MF. "I suppose we've all been on a bit of a journey": a qualitative study on providers' lived experiences with liberalised abortion care in the Republic of Ireland. Sex Reprod Health Matters. 2023 Dec;31(1):2216526.

Eogan M, Murphy C, Higgins M. Ongoing need for education in abortion care. Int J Gynaecol Obstet. 2023;160(1):334-335.

Favre G, Gerbier E, Maisonneuve E, et al. COVID-19-related medicine utilization study in pregnancy: The COVI-PREG cohort. Br J Clin Pharmacol. 2023;89(5):1560-1574.

Jackson H, MacBride C, Taylor L, Carey M, Higgins MF. Patients' attitudes to bedside teaching after the COVID-19 pandemic. Ir J Med Sci. 2023.

Kelly S, Sharpe S, Culliton M, Higgins MF, Fitzgerald J. The effect of clinician education on blood transfusion practice in obstetrics: completing the audit cycle. Ir J Med Sci. 2023;192(2):765-771.

Smyth S, Mulligan K, Rutter E, Harrington L, Hatunic M, Higgins MF. Attitudes of women with gestational diabetes toward diet and exercise: a qualitative study. J Matern Fetal Neonatal Med. 2023 Dec;36(1):2155045.

Bartels HC, O'Doherty J, Wolsztynski E, Brophy DP, MacDermott R, Atallah D, Saliba S, Young C, Downey P, Donnelly J, Geoghegan T, Brennan DJ, Curran KM. Radiomics-based prediction of FIGO grade for placenta accreta spectrum. Eur Radiol Exp. 2023 Sep 20;7(1):54. doi: 10.1186/s41747023-00369-2.

Bartels HC, Lalor JG, Walsh D, Nieto-Calvache AJ, Terlizzi K, Cooney N, Palacios-Jaraquemada JM, O'Flaherty D, MacColgain S, Ffrench-O'Carroll R, Brennan DJ. Anesthesia and postpartum pain management for placenta accreta spectrum: The patient perspective and recommendations for care. Int J Gynaecol Obstet. 2023 Sep 19. doi: 10.1002/ijgo.15125.

Bartels HC, Walsh D, Nieto-Calvache AJ, Lalor J, Terlezzi K, Cooney N, Palacios-Jaraquemada JM, O'Flaherty D, MacColgain S, Ffrench-O'Carroll R, Brennan DJ. Anesthesia and postpartum pain management for placenta accreta spectrum: The healthcare provider perspective. Int J Gynaecol Obstet. 2023 Sep 19. doi: 10.1002/ijgo.15096

Algera MD, Morton R, Sundar SS, Farrell R, van Driel WJ, Brennan D, Rijken MJ, Sfeir S, Allen L, Eiken M, Coleman RL; collaborators of the Global Equality in Ovarian Cancer Care project group Exploring international differences in ovarian cancer care: a survey report on global patterns of care, current practices, and barriers. Int J Gynecol Cancer. 2023 Aug 17:ijgc-2023-004563. doi: 10.1136/ijgc-2023-004563

Bhatt A, Glehen O, Zivanovic O, Brennan D, Nadeau C, Van Driel W, Bakrin N.The 2022 PSOGI International Consensus on HIPEC Regimens for Peritoneal Malignancies: Epithelial Ovarian Cancer. Ann Surg Oncol. 2023 Aug 10. doi: 10.1245/s10434-023-139323.

Harmon C, Zaborowski A, Moore H, St Louis P, Slattery K, Duquette D, Scanlan J, Kane H, Kunkemoeller B, McIntyre CL, Scannail AN, Moran B, Anderson AC, Winter D, Brennan D, Brehm MA, Lynch L. T cell dichotomy with opposing cytotoxic and wound healing functions in human solid tumors. Nat Cancer. 2023 Aug;4(8):1122-1137. doi: 10.1038/s43018-023-00589-w

Egan D, Kreileder M, Nabhan M, Iglesias-Martinez LF, Dovedi SJ, Valge-Archer V, Grover A, Wilkinson RW, Slidel T, Bendtsen C, Barrett IP, Brennan DJ, Kolch W, Zhernovkov V. Small gene networks delineate immune cell states and characterize immunotherapy response in melanoma. Cancer Immunol Res. 2023 May 25:CIR-22-0563. doi: 10.1158/2326-6066.CIR-22-0563

Bartels HC, Horsch A, Cooney N, Brennan DJ, Lalor JG Living with a diagnosis of Placenta Accreta Spectrum: Mothers' and Fathers' experience of the antenatal journey and the birth. PLoS One. 2023 May 22;18(5):e0286082. doi: 10.1371/journal.pone.0286082

Nebgen DR, Domchek SM, Kotsopoulos J, de Hullu JA, Crosbie EJ, Paramanandam VS, Brood-van Zanten MMA, Norquist BM, Guise T, Rozenberg S, Kurian AW, Pederson HJ, Yuksel N, Michaelson-Cohen R, Bober SL, da Silva Filho AL, Johansen N, Guidozzi F, Evans DG, Menon U, Kingsberg SA, Powell CB, Grandi G, Marchetti C, Jacobson M, Brennan DJ, Hickey M. Care after premenopausal risk-reducing salpingo-oophorectomy in high-risk women: Scoping review and international consensus recommendations. BJOG. 2023 May 2. doi: 10.1111/1471-0528.17511

Cable J, Rathmell JC, Pearce EL, Ho PC, Haigis MC, Mamedov MR, Wu MJ, Kaech SM, Lynch L, Febbraio MA, Bapat SP, Hong HS, Zou W, Belkaid Y, Sullivan ZA, Keller A, Wculek SK, Green DR, Postic C, Amit I, Benitah SA, Jones RG, Reina-Campos M, Torres SV, Beyaz S, Brennan D, O'Neill LAJ, Perry RJ, Brenner D. Immunometabolism at the crossroads of obesity and cancer-a Keystone Symposia report. Ann N Y Acad Sci2023 May;1523(1):38-50. doi: 10.1111/nyas.14976

Silva R, Glennon K, Metoudi M, Moran B, Salta S, Slattery K, Treacy A, Martin T, Shaw J, Doran P, Lynch L, Jeronimo C, Perry AS, Brennan DJ Unveiling the epigenomic mechanisms of acquired platinumresistance in high-grade serous ovarian cancer. Int J Cancer. 2023 Jul 1;153(1):120-132. doi: 10.1002/ijc.34496.

Armstrong F, Mulligan K, Dermott RM, Bartels HC, Carroll S, Robson M, Corcoran S, Parland PM, Brien DO, Brophy D, Brennan DJ. Cesarean scar niche: An evolving concern in clinical practice. Int J Gynaecol Obstet. 2023 Nov 1. doi: 10.1002/ijgo.14509.

Beauchamp K, Moran B, O'Brien T, Brennan D, Crown J, Sheahan K, Cotter MB.Carcinoma of unknown primary (CUP): an update for histopathologists. Cancer Metastasis Rev. 2023 Jul 3. doi: 10.1007/s10555-023-10101-6

Bartels HC, Brennan DJ, Timor-Tritsch IE, Agten AK. Global variation and outcomes of expectant management of CSP. Best Pract Res Clin Obstet Gynaecol. 2023 Jul;89:102353. doi: 10.1016/j.bpobgyn.2023.102353.

Nabhan M, Egan D, Kreileder M, Zhernovkov V, Timosenko E, Slidel T, Dovedi S, Glennon K, Brennan D, Kolch W. Deciphering the tumour immune microenvironment cell by cell. Immunooncol Technol. 2023 Apr 7;18:100383. doi: 10.1016/j.iotech.2023.100383.

Lynch S, Lowry D, Finnerty C, O'Meara Y, Brennan D.The COMFORT trial: a randomised control trial comparing group-based COMpassion-FOcussed therapy and breathing pattern ReTraining with treatment as usual on the psychological functioning of patients diagnosed with cancer recurrence during COVID. Trials. 2023 Feb 6;24(1):89. doi: 10.1186/s13063-023-07088-4.

Treacy T, O'Meara Y, Henry AL, Lensen SF, Higgins MJ, Hickey M, Brennan DJ The Sleepio after cancer (SAC) study. Digital cognitive behavioural therapy for insomnia (dCBT-I) in women cancer patients - Trial protocol of a randomised controlled trial. Contemp Clin Trials. 2023 Sep 21:107337. doi: 10.1016/j.cct.2023.107337.1.

Reproductive Medicine

Mitchell JM, Cullen S, McEvoy A, Crosby D, Allen C. Can Anti-Müllerian Hormone levels predict future pregnancy outcomes in recurrent pregnancy loss? *Eur J Obstet Gynecol Reprod Biol.* 2023 Mar 11;284:20-23. doi: 10.1016/j.ejogrb.2023.03.006. Online ahead of print. PMID: 36924658

Fee N, McEvoy A, Cullen S, Doyle S, Crosby D, Allen C. Pregnancy outcomes following recurrent miscarriage. *Ir J Med Sci.* 2023 Feb 9. doi: 10.1007/s11845-023-03305-w. Online ahead of print. PMID: 36757518

Cullen S, Sobczyk K, Elebert R, Tarleton D, Casey B, Doyle S, Crosby D, Allen C. Second-trimester miscarriage: a review of postnatal investigations and subsequent pregnancy outcomes. *Ir J Med Sci.* 2022 Nov 17. doi: 10.1007/s11845-022-03227-z. Online ahead of print.
PMID: 36396810

O'Brien S, Schaler L, Giblin A, Glover LE, Wingfield M. Assisted human reproduction legislation: Listening to the voice of patients. *Eur J Obstet Gynecol Reprod Biol*. 2023 May;284:169-174. doi: 10.1016/j.ejogrb.2023.03.020. Epub 2023 Mar 21. PMID: 37003241.

Schaler L, Giblin A, Glover LE, Wingfield M. Assisted human reproduction legislation: Acknowledging the voice of health care professionals. *Eur J Obstet Gynecol Reprod Biol.* 2023 Jan;280:28-33. doi: 10.1016/j.ejogrb.2022.11.007. Epub 2022 Nov 9. PMID: 36379181.

Horan M, Hartigan L, Elebert R, Groarke H, Glover L, Owens C, Wingfield M. A 2-year follow-up study of ovarian reserve in female survivors of childhood cancer. *Ir Med J*. 2023 Jun 29;116(6):785. PMID: 37552544.

Kovács Z, Reidy F, Glover L, McAuliffe FM, Stockmann H, Kilbane MT, Twomey PJ, Peters M, Saare M, Rudd PM, Utt M, Wingfield M, Salumets A, Saldova R. N-glycans from serum IgG and total serum glycoproteins specific for endometriosis. *Sci Rep*. 2023 Jun 28;13(1):10480. doi: 10.1038/s41598-023-37421-5. PMID: 37380737; PMCID: PMC10307818.

European IVF Monitoring Consortium (EIM) for the European Society of Human Reproduction and Embryology (ESHRE); Smeenk J, Wyns C, De Geyter C, Kupka M, Bergh C, Cuevas Saiz I, De Neubourg D, Rezabek K, TandlerSchneider A, Rugescu I, Goossens V.

ART in Europe, 2019: results generated from European registries by ESHRE. *Hum Reprod*. 2023 Dec 4;38(12):2321-2338. doi: 10.1093/humrep/dead197. PMID: 37847771; PMCID: PMC10694409.

Posters/Presentations at National and International Conferences

Sorca O'Brien (Oral Presentation)

'Irish AHR Legislation - Fertility Patient Opinions and Attitudes'RISE 2023 (Research & Innovation Symposium Exhibition), National Maternity Hospital 24 Feb 2023

Laurentina Schaler (Poster), Impact of COVID-19 Vaccination on Seminal and Sytematic Inflammation in Men, RISE 2023 (Research & Innovation Symposium Exhibition), National Maternity Hospital 24 Feb 2023

Dr Sorca O'Brien (Oral Presentation), Draft AHR Legislation: listening to the voice of patients (BFS Early Career Clinician Award: shortlisted) Fertility 2023 Conference, ICC Belfast 10-13 January 2023

Dr Laurentina Schaler (Oral Presentation), Male Fertility - Impact of SARS-CoV-2 vaccines (BFS Early Career Clinician Award: shortlisted) Fertility 2023 Conference, ICC Belfast 10-13 January 2023

Dr Federica Giangrazi (Oral Presentation), The uterine microbiome and the microbial metabolite butyrate stimulate pro-inflammatory responses in endometrial epithelial cells, suggesting a possible impact on female fertility (BFS Young Scientist Award: shortlisted) Fertility 2023 Conference, ICC Belfast 10-13 January 2023

Dr Andrew Downey (Oral Presentation), Benefit of Endometrial Receptivity Array in a highly selected patient population (rapid-fire poster), Fertility 2023 Conference, ICC Belfast 10-13 January 2023

Dr Rachel Elebert (Poster), A retrospective review of oocytes containing Smooth Endoplasmic Reticulum (SER) aggregates. Fertility 2023 Conference, ICC Belfast 10-13 January 2023

Dr Maebh Horan (Poster), A 2-year follow-up study of ovarian reserve in female survivors of childhood cancer. Fertility 2023 Conference, ICC Belfast 10-13 January 2023.

Dr Maebh Horan (Poster), RNA sequencing studies evaluating oocyte quality in women with endometriosis: a meta-analysis. 39th Annual Meeting ESHRE, Copenhagen, Denmark 25-28 June 2023.

Dr Rachel Elebert (Poster), Analysis, including morphokinetic data, of IVF/ICSI cycles with oocytes containing aggregates of smooth endoplasmic reticulum (SER). 39th Annual Meeting ESHRE, Copenhagen, Denmark 25-28 June 2023.
Dr Laurentina Schaler (Poster), SARS CoV2 antibody isotypes in seminal fluid of vaccinated men

39th Annual Meeting ESHRE, Copenhagen, Denmark 25-28 June 2023.
Dr Sorca O'Brien (Poster walk), Review of draft Assisted Human Reproduction Bill and development of suggested quality amendments, 16th European Public Health Conference, Dublin, 8-11 November 2023.

Other Obstetrics & Gynaecology

Anesthesia and postpartum pain management for placenta accreta spectrum: The healthcare provider perspective Bartels HC, Walsh D, Nieto-Calvache AJ, Lalor J, Terlezzi K, Cooney N, Palacios-Jaraquemada JM, O'Flaherty D, MacColgain S, Ffrench-O'Carroll R, Brennan DJ. Int J Gynaecol Obstet. 2023 Sep 19. doi: 10.1002/ijgo.15096. Online ahead of print. Bartels HC Int J Gynaecol Obstet 2023 10.1002/ijgo.15096

Anesthesia and postpartum pain management for placenta accreta spectrum: The patient perspective and recommendations for care Bartels HC, Lalor JG, Walsh D, Nieto-Calvache AJ, Terlizzi K, Cooney N, Palacios-Jaraquemada JM, O'Flaherty D, MacColgain S, FfrenchO'Carroll R, Brennan DJ. Int J Gynaecol Obstet. 2023 Sep 19. doi: 10.1002/ijgo.15125. Online ahead of print. Bartels HC Int J Gynaecol Obstet 2023 10.1002/ijgo.15125

Underdiagnosis of internal anal sphincter trauma following vaginal delivery. O'Leary BD, Kelly L, Fitzpatrick M, Keane DP. Ultrasound Obstet Gynecol. 2023 Feb;61(2):251-256. doi: 10.1002/uog.26049. PMID: 36722430

Validation of online delivery of the Australian Pelvic Floor Questionnaire in an Irish obstetric population. O'Leary BD, Keane DP. Int Urogynecol J. 2023 Apr 1:1-7. doi: 10.1007/s00192-023-05529-x. Online ahead of print. PMID: 37004518

CS in Single Cephalic Term Nulliparas: The Changing Size of Robson Group 1 and 2. Corbett G, Ryan K, Twomey A, O'Riordan N, Keane D, Robson M. AJOG (2023); 230 (1) https://www.ajog.org/article/S00029378(23)01248-6/fulltext

Neonatology

The history of neonatal intubation. Geraghty LE, Currain **EÓ, McCarthy LK, O›Donnell** CPF.Semin Fetal Neonatal Med. 2023 Oct;28(5):101481. doi: 10.1016/j.siny.2023.101481. Epub 2023 Nov 18.PMID: 38030436 Review.

Nasal interfaces for neonatal resuscitation. Ni Chathasaigh CM, Davis PG, O'Donnell CP, McCarthy LK.Cochrane Database Syst Rev. 2023 Oct 3;10(10):CD009102. doi: 10.1002/14651858.CD009102.pub2. PMID: 37787113 Review.

Straight to you? Should preterm newborns be placed skin-to-skin with their mothers or under radiant heat? O'Donnell CPF, McCarthy LK.Resuscitation. 2023 Aug;189:109887. doi: 10.1016/j.resuscitation.2023.109887. Epub 2023 Jun 27.PMID: 37385401 No abstract available.

Thermal care for very preterm infants in the delivery room in the era of delayed cord clamping.
Dunne EA, Pellegrino N, Murphy MC, McDonald K, Dowling L, O'Donnell CPF, McCarthy LK.Arch Dis Child Fetal Neonatal Ed. 2023 Mar;108(2):204. doi: 10.1136/archdischild-2021-323477. Epub 2022 Jan 28.PMID: 35091449 No abstract available.

Moore CM, O'Sullivan S, Curley AE. Parents' understanding and experiences of blood component transfusion in the neonatal intensive care unit: A qualitative study. Acta Paediatr. 2023 Dec;112(12):2493-2502. doi: 10.1111/apa.16952. Epub 2023 Aug 24. PMID: 37615240.

Moore CM, Lorusso A, Morgan L, Brazil S, Croxon H, Waters A, Farrelly A, Hervig T, Curley A. Safety and feasibility of platelet transfusion through long catheters in the neonatal intensive care unit: an in vitro study. Arch Dis Child Fetal Neonatal Ed. 2023 Dec 15;109(1):70-73. doi: 10.1136/archdischild-2023-325632. PMID: 37433587.

Moore CM, O'Reilly D, McCallion N, Curley AE. Changes in inflammatory proteins following platelet transfusion in a neonatal population. Pediatr Res. 2023 Dec;94(6):19731977. doi: 10.1038/s41390-023-02731-x. Epub 2023 Jul 13. PMID: 37443343; PMCID: PMC10665178.

O'Reilly D, Murphy CA, Moore CM, Ni **Áinle** F, Gormley IC, Morrell CN, Curley A, Mc Callion N, Maguire P. Markers of platelet activation foR identification of late onset sEpsis in infaNTs: PARENT study protocol. Pediatr Res. 2023 Sep 27. doi: 10.1038/s41390-023-02812-x. Epub ahead of print. PMID: 37758864.

Moore CM, D'Amore A, Fustolo-Gunnink S, Hudson C, Newton A, Santamaria BL, Deary A, Hodge R, Hopkins V, Mora A, Llewelyn C, Venkatesh V, Khan R, Willoughby K, Onland W, Fijnvandraat K, New HV, Clarke P, Lopriore E, Watts T, Stanworth S, Curley A; PlaNeT2 MATISSE. Two-year outcomes following a randomised platelet transfusion trial in preterm infants. Arch Dis Child Fetal Neonatal Ed. 2023 Sep;108(5):452-457. doi: 10.1136/ archdischild-2022-324915. Epub 2023 Feb 21. PMID: 36810309; PMCID: PMC10447411.

Lu W, Ziman A, Yan MTS, Waters A, Virk MS, Tran A, Tang H, Shih AW, Scally E, Raval JS, Pandey S, Pagano MB, Shan H, Moore C, Morrison D, Cormack O, Fitzgerald J, Duncan J, Corean J, Clarke G, Yazer M. Serologic reactivity of unidentified specificity in antenatal testing and hemolytic disease of the fetus and newborn: The BEST collaborative study. Transfusion. 2023 Apr;63(4):817-825. doi: 10.1111/trf.17276. Epub 2023 Feb 23. PMID: 36815517.

Foran J, Moore CM, Ni Chathasaigh CM, Moore S, Purna JR, Curley A. Nasal high-flow therapy to Optimise Stability during Intubation: the NOSI pilot trial. Arch Dis Child Fetal Neonatal Ed. 2023 May;108(3):244-249. doi: 10.1136/archdischild-2022-324649. Epub 2022 Oct 28. PMID: 36307187; PMCID: PMC10176365.

Hansen ML, Pellicer A, Hyttel-Sørensen S, Ergenekon E, Szczapa T, Hagmann C, Naulaers G, Mintzer J, Fumagalli M, Dimitriou G, Dempsey E Safe-BooSC-III study group. Cerebral oximetry monitoring in extremely preterm infants. New England Journal of Medicine. 2023 Apr 20;388(16):1501-11.

Olsen MH, Hansen ML, Lange T, Gluud C, Thabane L, Greisen G, Jakobsen JC; SafeBoosC-III Trial Group. Detailed statistical analysis plan for a secondary Bayesian analysis of the SafeBoosC-III trial: a multinational, randomised clinical trial assessing treatment guided by cerebral oximetry monitoring versus usual care in extremely preterm infants. Trials. 2023 Nov 16;24(1):737. doi: 10.1186/s13063-023-077203. PMID: 37974280; PMCID: PMC10655478.

Murphy MC, Miletin J, Klingenberg C, GutheHJ, Rigo V, Plavka R, Bohlin K, Pereira AB, Juren T, Alih E, Galligan M, O'Donnell CPF. Prophylactic oropharyngeal surfactant for preterm newborns at birth: a randomized clinical trial. JAMA Pediatr Published online December 11, 2023. doi:10.1001/jamapediatrics.2023.5082

Eckart F, Kaufmann M, O'Donnell CPF, Mense L, Rüdiger M. Survey on currently applied interventions in neonatal resuscitation (SCIN): A study protocol. **Front** Pediatr eCollection 2022;10:1056256. doi: 10.3389/fped.2022.1056256. PMID: 36699288

Kribs A, Roberts KD, Trevisanuto D, O' Donnell C, Dargaville PA. Alternative routes

of surfactant application - An update. Semin Fetal Neonatal Med 2023;28: 101496. doi: 10.1016/j.siny.2023.101496. Epub 2023 Nov 22.PMID: 38040586

Geraghty LE, O Currain EM, McCarthy LK, O'Donnell CPF. The history of neonatal intubation. Semin Fetal Neonatal Med 2023 Nov 18:101481. doi: 10.1016/j.siny.2023.101481.

Kribs A, Roberts KD, Trevisanuto D, O'Donnell C, Dargaville PA. Surfactant delivery strategies to prevent bronchopulmonary dysplasia. Semin Perinatol 2023; 47: 151813. doi: 10.1016/j.semperi.2023.151813. Epub 2023 Sep 9.

O'Donnell CPF, McCarthy LK. Straight to you? Should preterm newborns be placed skinto-skin with their mothers or under radiant heat? Resuscitation 2023; 189: 109887. doi: 10.1016/j.resuscitation.2023.109887. Epub 2023 Jun 27

O'Donnell CPF, Dekker J, Rüdiger M, te Pas AB. The future of clinical trials in the delivery room: time for pragmatism. Arch Dis Child Fetal Neonatal Ed 2023; 108: F102-F105 (doi:10.1136/archdischild-2022-324387)

Ní Chathasaigh CM, Davis PG, O'Donnell CPF, McCarthy LK. Nasal airways interfaces for neonatal resuscitation. Cochrane Database Syst Rev 2023 Oct 3; 10(10):CD009102

Greene Z, O'Donnell CPF, Walshe M. Oral stimulation for promotion of oral feeding in preterm infants. Cochrane Database Syst Rev 2023 Jun 20;6(6):CD009720.

Ni Chathasaigh CM, O'Currain E, Curley AE. Variations in newborn airway management. Ir Med J. 2023 May 18;116(5):776. PMID: 37555533.

Clinical Nutrition & Dietetics

Pregnancies post bariatric surgery: an audit of dietetic records from 2020-2022 at the National Maternity Hospital Sarah Louise Killeen, Fionnuala Byrne, Cillian Power, Laura Harrington, Sinead Curran· Presentation at NMH Research and Innovation Symposium Event, 24 February 2023.

Women's experiences of Hyperemesis Gravidarum (HG) and of attending a dedicated multi-disciplinary hydration clinic. Doherty J, McHale H, Killeen SL, Curran S, Bennett M, Sheehy L, Murphy S, Murtagh L, O'Brien E. Women Birth. 2023 Nov;36(6): e661-e668. doi: 0.1016/j.wombi.2023.06.005. Epub 2023 Jul 11. Doherty J. Women Birth 2023 10.1016/j.wombi.2023.06.005

The far-reaching burden of Hyperemesis Gravidarum - an exploration of women's experiences and perceptions of healthcare support. Beirne ER, Andrews LB, Murtagh LP, Browne S, Curran SB, O'Brien EC. Women Health. 2023 Aug 9;63(7):485-494. doi: 10.1080/03630242.2023.2219749. Epub 2023 Jun 18. Beirne ER. Women Health 2023 10.1080/03630242.2023.2219749

Roberta McCarthy, Sinéad O'Donovan, Jessica Caldeira, Roísín Gowan, Eimear Ryan, Madeleine Murphy, Anna Curley, Jyothsna Purna, Helen Batson, Ramita Dangol, Ciara Murphy, Fidelma Martin, Tiji Jose, Joanne Egan, Zelda Greene and the wider PRIME Neonatal MDT, PRIME B - Sustaining the journey to breastfeeding in the neonatal unit. Oral presentation at NMH Research and Innovation Symposium Event, 24 February 2023; Poster presentation at Irish Nutrition and Dietetic Institute Research Symposium, Dublin 8 May 2023; and Irish Neonatal Research Meeting, Dublin, 31 March 2023

Maria Iatan, Roberta McCarthy, Madeleine Murphy, Volume of breast milk production at key time points among preterm infants born before 35 weeks and admitted to our neonatal unit. Poster presentation at Congress of Joint European Neonatal Societies, Rome, 19-23 September 2023.

Roísín Gowan, Roberta McCarthy, Dr Nurul Aminudin, Re-establishing Feeds Post NEC - A Survey of Practice in Irish Neonatal Units. Poster presentation at Irish Neonatal Research Symposium, Dublin, 31 March 2023. Poster presentation at Irish Nutrition and Dietetic Institute Research Symposium, Dublin, 8 May 2023.

Sarah Fenton, Brendan Murphy, Anne Doolan, Roberta McCarthy, AnnMarie Brennan, National Standardisation of Preterm Parenteral Nutrition in Ireland. Poster and oral presentation at the Hospital Pharmacist Association of Ireland Conference, Dublin, 22 May 2023.

Eimear Ryan, Roísín Gowan, RobertaMcCarthy, A review of the macronutrient content of pasteurised donor human milk supplied to a tertiary care neonatal unit. Poster presentation at Irish Nutrition and Dietetic Institute Research Symposium, Dublin, 8 May 2023.

Speech & Language Therapy

An update of our 2016 Cochrane review was published: Greene Z, O'Donnell CPF, Walshe M. Oral stimulation for promoting oral feeding in preterm infants. Cochrane Database of Systematic Reviews 2023, Issue 6. Art. No.: CD009720. DOI: 10.1002/14651858.CD009720.pub3.

Book Chapter published with colleagues from CHI at Crumlin

Zelda Greene, Siobhan Fitzgerald, Redentor Prudente, Philip Harnett, Sheila Javadpour, John Russell 'Use of a Modified Speaking Valve in an Infant' in Diez Gross R, King KA (Eds) Tracheostomy and Ventilator Dependence in Adults and Children: Learning through Case Studies 2023 Plural Publishing: San Diego

Microbiology

E. Houlihan, R. Barry, SJ Knowles, M Eogan, RJ Drew. To screen or not to screen for asymptomatic bacteriuria in pregnancy: A comparative three-year retrospective review between two maternity centres. European Journal of Obstetrics & Gynecology 288 (2023) 130-134. PMID: 37515907

Barry R, Houlihan E, Knowles S, Eogan M, Drew R. Antenatal pyelonephritis: a three-year retrospective cohort study of two Irish maternity centres. Eur J Clin Microbiol Infect Dis 2023;42:827-833. PMID: 37126130 https://doi.org/10.1007/s10096-023-04609-6

E. Houlihan, M. Corderroura, L. Delany, A. Twomey, S. Knowles. Vancomycin dosing in neonates and sub-therapeutic levels. Ir Med J 2023;116:775.

Anaesthesia & Pain Medicine

Thromboelastometry-guided treatment algorithm in postpartum haemorrhage. Comment on Br J Anaesth 2023; 130: 165–74 March 2023 DOI: 10.1016/j.bja.2023.02.012 Unrestricted drinking before surgery: an iterative quality improvement study November 2022 Anaesthesia 78(4) DOI: 10.1111/anae.15927

Ahmed S, Higgins N. AB088. SOH23ABS_143. Sips til section: The National Maternity Hospital Experience. Mesentery Peritoneum 2023;7:AB088. O'Reilly D, Morris F, Higgins N. AB085. SOH23ABS_062. Autonomic dysfunction in an obstetric patient. Mesentery Peritoneum 2023;7:AB085

Hurley C, Rahmani LS, Ffrench-O'Carroll R. The need to maintain skills in both direct and videolaryngoscopy-insights from a national survey of anaesthesia trainees in Ireland. Ir J Med Sci. 2024 Feb;193(1):369-370. doi: 10.1007/s11845-023-03429-z. Epub 2023 Jun 15. PMID: 37322245.

Patient safety practices in European anaesthesiology: Expert evaluation and ranking McCreedy A, Wacker J, Ffrench-O'Carroll R, Berthelsen KG, Kremeňova Tatičová Z, Smith AF. Eur J Anaesthesiol. 2023 Feb 1;40(2):113-120. doi: 10.1097/EJA.0000000000001779. Epub 2022 Dec 5. McCreedy A Eur J Anaesthesiol 2023 10.1097/EJA.0000000000001779

Abstract Publications

R. Free, R. Ffrench-O'Carroll, P37 The role of human factors in the decision to administer general anaesthesia for emergency caesarean sections, International Journal of Obstetric Anesthesia, Volume 54, Supplement 1,2023,103699,ISSN 0959-289X, https://doi.org/10.1016/j.ijoa.2023.103699.

S. Ahmed, N. Higgins, C. Joyce, D. O'Reilly, P68 Labour of love. A quality improvement project,International Journal of Obstetric Anesthesia, Volume 54, Supplement 1,2023,103730,ISSN 0959-289X,

https://doi.org/10.1016/j.ijoa.2023.103730.

P. Yore, P. Calpin, P75 Does the use of prilocaine for spinal anaesthesia improve recovery times compared to bupivacaine in women undergoing caesarean section?, International Journal of Obstetric Anesthesia, Volume 54, Supplement 1, 2023,103737,ISSN 959289X,https://doi.org/10.1016/j.ijoa.2023.103737.

M. Egan, A. Altaf, J. Fitzgerald, I. Browne,P117 Audit of the use of ROTEM in major obstetric haemorrhage in The National Maternity Hospital,

International Journal of Obstetric Anesthesia, Volume 54, Supplement 1, 2023,103779,ISSN 0959-289X,https://doi.org/10.1016/j.ijoa.2023.103779.

R. Free, C. Joyce, P. Calpin, I. Browne, R. Ffrench-O'Carroll, P143 Programmed-intermittent epidural bolus regimen vs continuous epidural infusion: a retrospective, cohort study of motor block and obstetric outcomes, International Journal of Obstetric Anesthesia, Volume 54, Supplement 1,2023,103805,ISSN 0959289X,https://doi.org/10.1016/j.ijoa.2023.103805.

C. Greene, R. Ffrench-O'Carroll, R. McMorrow, P154 Pain during caesarean section: assessment, management and follow-up in a tertiary maternity hospital,International Journal of Obstetric Anesthesia,Volume 54, Supplement 1, 2023,103816,ISSN 0959289X,https://doi.org/10.1016/j.ijoa.2023.103816.

S. Ahmed, N. Higgins, P183 Subcapsular haematoma: a rare complication of HELLP Syndrome, International Journal of Obstetric Anesthesia,Volume 54, Supplement 1,2023,103845,ISSN 0959-289X, https://doi.org/10.1016/j.ijoa.2023.103845. C. Greene, M. O'Brien, C. Canniffe, I. Browne,

P188 Combined spinal epidural anaesthesia for caesarean section in a parturient with dilated cardiomyopathy, International Journal of Obstetric Anesthesia, Volume 54, Supplement 1,

2023,103850,ISSN 0959-289X, https://doi.org/10.1016/j.ijoa.2023.103850.

S. Ahmed, E. Murray, P. Calpin, N. Higgins, P190 Dual Pathology,International Journal of Obstetric Anesthesia, Volume 54, Supplement 1,2023,103852,ISSN 0959-289X,https://doi.org/10.1016/j.ijoa.2023.103852.

Current MD Student (Lorcan O Carroll): Title: Development and testing of proficiency based simulation teaching programme for the use of ISBAR communication tool in the setting of emergency caesarean section.

Description: This project aims to develop a set of metrics around the use of ISBAR in the setting of clinical handover for emergency caesarean sections. These metrics can then be applied to proficiency based simulation in order to develop a performance benchmark which can be integrated into a proficiency based simulation teaching programme'

Collaborators: Dr Robert ffrench-O'Carroll NMH, Prof Mary Higgins NMH, Dr Don Walsh Mater Hospital, Dr Siobhan Scarlett.

Staff Listing

RESIDENT AND VISITING MEDICAL STAFF

Master
Prof Shane Higgins

Department of Obstetrics and Gynaecology
Dr Gerard Agnew
Dr Cathy Allen
Dr Venita Broderick
Dr Stephen Carroll
Dr Siobhán Corcoran
Dr David Crosby
Dr Myra Fitzpatrick
Dr Grainne Flannelly (*retired Jan*)
Dr Lucia Hartigan (*to Jun*)
Dr Mona Joyce
Dr Zara Fonseca-Kelly
Dr Eithne Linnane
Dr Rhona Mahony
Dr Fiona Martyn
Dr Ruaidhri McVey
Dr Donal O'Brien
Dr Laoise O'Brien
Dr Clare O'Connor O'Sullivan
Dr Michael Robson
Dr Orla Sheil
Prof Jennifer Walsh

Department of Obstetrics and Gynaecology, University College Dublin
Prof Fionnuala McAuliffe
Prof Mary Higgins
Prof Donal Brennan

Department of Obstetrics and Gynaecology Royal College of Surgeons
Prof Declan Keane

Department of Pathology and Laboratory Medicine
Director: Dr Paul Downey
Dr Eoghan Mooney
Dr Joan Fitzgerald
Dr David Gibbons
Dr Susan Knowles
Dr Karen Murphy
Dr Maryse Power

Department of Paediatrics and Neonatology
Director: Dr Deirdre Sweetman
Dr Anna Curley
Dr Jan Franta
Dr Lisa McCarthy
Dr Eoin O'Currain
Prof Colm O'Donnell
Dr Jyothsna Purna
Dr Claudine Vavasseur
Dr Hana Fucikova

Department of Anaesthetics
Director: Dr Siaghal MacColgain
Dr Ingrid Browne
Dr Larry Crowley
Dr Siobhan McGuinness
Dr Roger McMorrow *(Clinical Director)*
Dr Kirk Levins
Dr Robert Ffrench-O'Carroll
Dr Nikki Higgins

Consultant Perinatal Psychiatrist
Dr Anthony McCarthy
Dr Catherine Hinds *(from Nov)*

Department of Radiology
Director: Dr Gabrielle C. Colleran
Dr Ian Robinson
Dr Niamh Adams

Consultant Geneticist
Dr William Reardon (*retired Jun*)
Dr Samantha Doyle, Consultant in Clinical Genetics

Clinical Lead – GP Menopause Clinic
Dr Deirdre Lundy

Endocrinologist
Dr Mensud Hatunic

Consultant Cardiologist
Dr Carla Canniffe

Consultant in Chemical Pathology
Dr Carel Le Roux *(from July)*

Consultant Opthamologist
Prof Michael O'Keefe (*RIP Jan*)
Dr Sarah Chamney

Honorary and Visiting Consulting Staff Respiratory Physician
Dr John Garvey
Dr Eleanor Dunican

Physician in Chemotherapeutic Medicine
Dr David Fennelly

Adult Nephrology
Dr John Holian

Occupational Physician
Dr Sheelagh O Brien

Microbiology
Dr Niamh O'Sullivan
Dr Cathal O'Sullivan

Gastroenterology
Dr Juliette Sheridan
Prof Hugh E Mulcahy

Surgeons
Mr Feargal Quinn

Oto-Rhino-Laryngologist (ENT Surgeon)
Mr Alex Blayney

Paediatric Surgeon
Mr John Gillick

Urological Surgeons
Mr David Quinlan
Mr Gerry Lennon

Orthopaedic Surgeon
Mr Damian McCormack

Dermatologist
Dr Aoife Lally

Paediatric Cardiologists
Dr Paul Oslizlok
Dr David Coleman
Dr Colin McMahon

General and Colorectol
Dr Ann Hanley

Paediatric Neurology
Dr Bryan Lynch
Dr David Webb

Paediatric Neurosurgery
Mr Darach Crimmins
Mr John Caird
Mr Kieron Sweeney
Ms Tafadzwa Mandiwanza

Adult Neurologists
Dr Conor O'Brien
Dr Janice Redmond
Prof Niall Tubridy
Dr Chris McGuignan

Infectious Diseases
Prof Colm Bergin
Dr Eoin Feeney

Chemical Pathology
Dr Pat Twomey
Dr Royce Vincent

Palliative Medicine Paediatrics
Dr Marie Twomey
Dr John Allen

Hepatology
Prof Aiden McCormick
Prof Omar ElSherif

Rheumatology
Prof Douglas J Veale

Consultant Anaesthetist
Dr Paul Murphy

Non-Consultant Hospital Doctors
Doctors in this list have spent between 3 and 12 months in The NMH. Some doctors may appear under more than one heading if they were employed at different levels during the year.

Specialist Registrars in Obstetrics/ Gynaecology
Dr Aoife McEvoy *(to Jul)*
Dr Roisin McConnell *(to Jul)*
Dr Jill Mitchell *(to Jul)*
Dr Daniel Galvin *(to Jul)*
Dr Aisling McDonnell *(to Jul)*
Dr Lavanya Shailendranath *(to Jul)*
Dr Hannah Glynn *(to Jul)*
Dr Ellen McMahon *(to Jul)*
Dr Kate O'Doherty *(to Jul)*
Dr Marie Rochford *(to Jul)*
Dr Tariq Bholah *(to Jul)*
Dr Niamh Keating *(to Jul)*
Dr Ciara McCormick *(from Jul)*
Dr Catherine O'Regan *(from Jul)*
Dr Bernard Kennedy *(from Jul)*
Dr Nicola Whelan *(from Jul)*
Dr Elmuiz Haggaz *(from Jul)*
Dr Michael Carey *(from Jul)*
Dr Aoife McTiernan *(from Jul)*
Dr Nada Warreth *(from Jul)*
Dr Kate Sexton *(from Jul)*

Registrars in Obstetrics/Gynaecology
Dr Tess Higgins *(to Jul)*
Dr Lucy Bolger *(to Jul)*
Dr Rebecca Boughton *(to Mar)*
Dr Aisling Redmond *(Mar – Jul)*
Dr Sarah O'Riordan *(to Mar)*
Dr Mohamed Elshaikh *(to Jul)*
Dr Ruairi Floyd *(from Jul)*
Dr Rachel O'Keeffe *(from Jul)*
Dr Alice O'Neill *(from Jul)*
Dr Alex Taylor *(Jul – Nov)*
Dr Sarah Kelly *(from Nov)*
Dr Mohamed Abdelrahman *(from Jul)*

Fellows / Research Registrars
Dr Fiona O'Toole,
Maternal & Fetal Medicine Fellow
Dr Nicola O'Riordan,
Labour Ward Fellow *(to Jul)*
Dr Gillian Corbett,
Fellow in Maternal Medicine *(to Jul)*
Dr Maggie O'Brien,
Maternal Medicine Fellow *(to Jul)*
Dr Helena Bartels,
Placenta Accreta Fellow *(to Jul)*
Dr Fatima Al-Shiokh, Urogynae Fellow
Dr Rachel Elebert,
Merrion Fertility Clinic *(to Jul)*
Dr Sarah Petch,
Merrion Fertility Clinic *(from Jul)*
Dr Andrew Downey,
Merrion Fertility Clinic
Dr Maria Farren,
Fellow in Medical Education *(from Jul)*
Dr Tara Rigney,
Fellow in Perinatal Genomics (from Jul)
Dr Shahad Al-Tikriri,
Fellow in Medical Education *(from Jul)*
Dr Bobby O'Leary
(Fellow in Urogynae Mesh *(from Jul)*
Dr Niamh Joyce,
Aspire Fellow - Development and consolidation of Fertility Preservation (FP) services for Children, Adolescents and Young Adults (CAYA) in Ireland *(from Jul)*

Senior House Officers in Obstetrics/ Gynaecology
Dr Alice O'Neill *(to Jul)*
Dr Ciara McArdle *(to Jul)*
Dr Claudia Condon *(to Jul)*
Dr Alex Taylor *(to Jul)*
Dr Jose Gonzalez
Dr Alla Bou Kalfouni *(to Jul)*
Dr Hira Abdur Rehman Qureshi *(to Jul)*
Dr Brian McDonnell *(from Jul)*
Dr Orla Bracken *(from Jul)*
Dr Ruta Petkute *(from Jul)*
Dr Sorcha Lynch *(from Jul)*
Dr Julia Morrison *(from Jul)*
Dr Tayla Philips *(from Jul)*
Dr Ciaran Cronin *(to Mar)*
Dr Niamh Kennedy *(to Mar)*
Dr Aifric Paul *(to Mar)*
Dr Andrew Dundas *(to Mar)*
Dr Michaela C Vittoraki *(to Mar)*
Dr Luke Harrington *(Mar - Jul)*
Dr Conor Marmion *(Mar - Jul)*
Dr Sarah Lally *(Mar - Jul)*
Dr Catherine McGowan *(Mar - Jul)*
Dr Kevin Foley *(Mar - Jul)*
Dr Dilshan Thirupathy *(Jul – Nov)*
Dr Dearbhla Murphy *(Jul – Nov)*
Dr Neil McEoin *(Jul – Nov)*
Dr Philip King *(Jul – Nov)*
Dr Ciara Corrigan *(Jul – Nov)*

Dr Nida Mohammed *(Jul – Nov)*
Dr Niall Reidy *(Jul – Nov)*
Dr Niamh O'Brien *(from Nov)*
Dr Mary Ailis Powderly *(from Nov)*
Dr Aine Ni Sheaghdha *(from Nov)*
Dr Caroline Herron *(from Nov)*
Dr Elise Morrissey *(from Nov)*
Dr Mary Brennan *(from Nov)*
Dr Niamh McCarthy *(from Nov)*

Specialist Registrars in Neonatology
Dr Hope Murphy O'Connor *(to Jul)*
Dr Laura Ryan *(to Jul)*
Dr Maria Latan *(to Jul)*
Dr Daniel Hardiman *(to Jul)*
Dr Robert Joyce *(to Jul)*
Dr Stephen Carroll *(to Jul)*
Dr Claire Murphy *(to Jul)*
Dr Aisling Garvey *(to Jul)*
Dr Emma Dunne *(from Jul)*
Dr Ciara Terry *(from Jul)*
Dr Anna Prendiville *(from Jul)*
Dr Tiarnan F. Verbruggen *(from Jul)*
Dr Sarah Hoolahan *(from Jul)*
Dr Michael Horgan *(from Jul)*
Dr Sinead Lally *(from Jul)*
Dr Francesca Feaheny *(from Jul)*
Dr Sabrina Sheridan *(from Jul)*

Registrars in Neonatology
Dr Janey Hattingh *(to Jul)*
Dr Georgia Dugaci *(to Jul)*
Dr Mohd Fazly *(from Jul)*
Dr Naureen Almas Khan *(from Jul)*

Senior House Officers in Neonatology
Dr Kate Rigney *(to Jul)*
Dr Asma Ahmed *(to Jul)*
Dr David Sheridan *(to Jul)*
Dr Elyassa Hamza *(to Jul)*
Dr Sabrina Sheridan *(to Jul)*
Dr Ciara Sreenan *(to Jul)*
Dr Asad Raza Jafary *(to Jul)*
Dr Sabha Costello Joyce *(to Apr)*
Dr Nader Tebeig Omer Aldai *(to Jul)*
Dr Caylee O'Leary *(from Jul)*
Dr Maeve Matthews *(from Jul)*
Dr Sinead Burke *(from Jul)*
Dr Greg Murphy *(from Jul)*
Dr Shauna Harte *(from Jul)*
Dr Siti Aisyah Mohd Ramli *(from Jul)*
Dr Kanyin Akinluyi *(from Jul)*
Dr Chane Tufan *(from Jul)*
Dr Hafsa Yousaf *(from Jul)*

Fellows / Research Registrars
Dr Emma Dunne, Neonatology Fellow *(to Jul)*
Dr Sarah Kasha, Neonatology Fellow *(from Jul)*
Dr Lucy Geraghty, Neonatology Researcher
Dr Catriona Ni Chathasaigh, Neonatology Researcher

Fellows in Anaesthesiology
Dr Mahendar Kumar *(Fellow – from Jul)*
Dr Ioana Sirbu *(Fellow – from Jul)*
Dr Lorcan Carroll *(Fellow – from Jul)*

Specialist Registrars in Anaesthesiology
Dr Maria Boylan *(to Jul)*
Dr Thomas R. McGimsey *(to Jul)*
Dr Rishi Watson *(to Jul)*
Dr Lorcan O'Carroll *(to Jul)*
Dr Emma May Lyons *(from Jul)*
Dr Stephen Moyles *(from Jul)*
Dr James Purcell *(from Jul)*
Dr Ola Nordrum *(from Jul)*

Registrars in Anaesthesiology
Dr Mehdi Hussain *(to Jul)*
Dr Rachel Nolan *(to Jul)*
Dr Ross Free *(to Jul)*
Dr Sara Ahmed *(to Jul)*
Dr Zewad Dawood *(to Jul)*
Dr Ashley Sabu *(to Jul)*
Dr Nicole Naidoo
Dr Rabia
Dr Mohamed El Maghraby *(to Jul)*
Dr Maeve O'Brien *(from Jul)*
Dr Ciara Luke *(from Jul)*
Dr Muhammad Hasan *(from Jul)*
Dr Ahsly T. Abdulazeez *(from Jul)*
Dr Kenneth Boon Keat Kuan *(from Jul)*

Specialist Registrars in Histopathology
Dr Sally McGrath *(to Jul)*
Dr Louise Marie Lane *(from Jul)*

Senior Registrars in Psychiatry
Dr Ralph Twomey *(to Jul)*
Dr Genevieve Crudden *(from Jul)*

Specialist Registrars in Microbiology
Dr Elaine Houlihan

SENIOR MIDWIFERY & NURSING STAFF

DIRECTOR OF MIDWIFERY & NURSING
Mary Brosnan

Assistant Directors of Midwifery & Nursing – Day Duty
Ann Calnan
Geraldine Duffy
Valerie Kinsella
Carol Pugh *(from Apr)*
Ann Rath *(retired Apr)*

Assistant Directors of Midwifery & Nursing -Infection Prevention and Control
Shideh Kiafar

Assistant Director of Midwifery & Nursing - Community Midwifery Services
Teresa McCreery *(from Jan)*

Assistant Directors of Midwifery & Nursing – Night Duty
Martina Carden
Eimir Guinan
Erica Mullins

Assistant Director of Midwifery & Nursing – Clinical Practice Development Co-ordinator
Lucille Sheehy

Advanced Midwife / Nurse Practitioners
Sarah Belton, *Gynaecology Oncology*
Caroline Brophy, *Postnatal Maternal Morbidity*
Ciara Coveney, *Diabetes*
Linda Kelly, *Women's Health & Urodynamics*
Shirley Moore, *Neonatology*

Candidate Midwife / Nurse Practitioner
Niamh Murray
Linda Smiles

Clinical Midwife / Nurse Managers 3
Gillian Canty, *Project Team*
Sive Cassidy, *MN-CMS*
Katie Cosgrove, *Community Midwifery Services (from Apr)*

Martina Cronin, *Labour and Birth & Antenatal Inpatient Services*
Emily Flynn, *Postnatal Services (from Jul)*
Karen Sherlock, *Theatre and Gynaecology Inpatient services*
Valerie Spillane, *Antenatal Outpatient & Ultrasound Services*
Helen Thompson, *Gynaecology / Women's Health & Emergency Care Services*
Hilda Wall, *Neonatal Unit*

Clinical Midwife/Nurse Managers 2
Emily Barriga, *Neonatal Unit*
Michelle Barry, *Fertility Hub*
Theresa Barry, *Parentcraft Education*
Anne Beirne, *Gynaecological Outpatients (from Jul)*
Lisa Brady, *Pre-Assessment Clinic (to Nov)*
Maggie Bree,*Theatre*
Carmel Breen, *Pre-Assessment Clinic*
Mariola Buczkowska, *Neonatal Unit*
Emma Ruth Candeleria, *Neonatal Unit*
Niamh Carney, *Pre-Assessment Clinic*
Barbara Cathcart, *Fetal Medicine Unit*
Michelle Clarke *Labour & Birthing Unit*
Joanne Courtney, *Fetal Medicine Unit*
Clodagh Craven, *Fetal Medicine Unit*
Siobhan Crisham, *Theatre / Recovery*
Rahel Dalton, *Night Duty*
Eleanor Durkin, *Parentcraft Education*
Jennifer Fitzgerald, *Occupational Health*
Carmel Flaherty, *Occupational Health (retired May)*
Miriam Griffin *Postnatal Services*
Dana Hardy, *Theatre*
Bianca Hein *Labour & Birthing Unit*
Mairead Hughes, *MRI (from Apr)*
Nicole Jackson, *Emergency Care Area (from Aug)*
Jilby Jacob, Postnatal Services
Jean Kavanagh, *Labour & Birthing unit*
Jane Langenbach, *Labour & Birthing unit*
Ann Lopez, *Gynaecological Inpatient Services*
Emer Kilduff, *Night Duty*
Sheeba Masih, *Labour & Birthing Unit*
Mairead Markey, *Labour & Birthing Unit*
Remy Mathew, *Postnatal Services*
Deirdre Molloy *Perinatal Mental Health*
Georgina Mulligan, *Perinatal Mental Health*
Annabel Murphy, *Antenatal Outpatient Clinic*
Amy McCoy, *Antenatal Inpatients Unit (from Apr)*
Claire McElroy, *Gynaecological Clinic*
Carolanne McGinley, *Labour & Birthing Unit*
Helen McHale, *Birth Reflections Service (from Apr)*
Petria O'Connell *Baby Clinic*
Gwen O'Neill, Labour & Birthing unit
Breid O'Dea, *Outpatients Clinic*
Rebekah Prabakaran, *Neonatal Unit*
Alphonsa Pius, *MN–CMS*
Bronwyn Redmond, *Infection Control*
Sara Rock, *Neonatal Unit*
Brid Shannon, *Labour & Birthing Unit*
Molly Vinu, *MN-CMS*
Jisha Vijayan, *Neonatal Unit*
Lorraine White *Baby Clinic*

Clinical Midwife/Nurse Specialists
Brenda Casey *(CMS Bereavement)*
Shauna Cawley *(CMS Ultrasound)*
Sharon Croke *(CMS Ultrasound)*
Sarah Cullen, *(CMS Bereavement)*
Lisa Hyland, *(CMS Ultrasound)*
Niamh Meagher, *(CMS Ultrasound) (retired Feb)*
Heather Hughes *(CMS Ultrasound))*
Cecilia Mulcahy, *(CMS Ultrasound))*
Elizabeth (Betty) Murphy, *(CMS Ultrasound)*
Ann Marie Murphy Cruse *(CMS Haematology)*
Caroline McCafferty *(CNS Neonatal)*
Claire McSharry, (*CMS Ultrasound*)
Ciara Murphy, *(CNS Neonatal)*
Celine O'Brien, (*CMS Maternal Medicine*)
Megan O'Malley, (CNS *Perinatal Mental Health)*
Hannah Rooney, *(CMS Diabetes)*
Eimear Rutter, *(CMS Diabetes)*
Elaine Smyth, (*CNS Perinatal Mental Health*)

Community/Early Transfer Home Services
Debbi Appelbe
Sarah Byers
Kate Casey
Katie Hearty
Claire Howlett *(from Jan)*
Sally Horton
Alice Hoffmeister
Lorna Killick
Clodagh Manning
Roisin McCormack
Bronwyn Nicol
Eimear O'Connor
Fiona Roarty
Nicola Smyth

Clinical Skills Facilitator
Aoife Lennon
Saila Kuriakose
Colette O'Neill
Lavanya Lakshmanan

Neonatal Clinical Skills Facilitator Fidelma Martin
Thankamma Mathew

Lactation Specialists
Helen Batson
Ruby Jaison
Aoife Kenny
Lizzie Reeves
Ramita Dangol

Neonatal Resuscitation Officer
Laura Eager

Neonatal Transport Co-Ordinator
Blaithin Quinlan

Oncology Nurse Co-ordinator
Sharon Glynn

Post Registration Midwifery Programme Co-ordinator
Ann Marie Dunne

Clinical Placement Co-ordinators
Sharon Egan
Orla Gavigan
Avril O'Connell
Elaine Creedon

Haemovigilance Officer
Bridget Carew

Nurse Colposcopists
Gina Baldesco
Dympna Casey
Hazel Catibog
Marie Collery
Natasha Farron Mahon
Siobhan Griffin
Lisa Hughes
Sinead Kausley
Deirdre O'Neill

Smoking Cessation
Orla Bowe

SENIOR ADMINISTRATION STAFF

Secretary/General Manager
Ronan Gavin

Financial Controller
Alistair Holland

Human Resources Manager
Yvonne Connolly

Deputy Human Resources Manager
Caoimhe De Brun

IT Manager
Con Grimes (Acting)

General Services Manager
Tony Thompson

Purchasing and Supplies Managers
Linda Mulligan and Lorraine McLoughlin

Patient Services Manager
Alan McNamara

Information Officer
Fionnuala Byrne

Health & Safety Officer
Martin Creagh

Facilities Engineering Manager
Neil Farrington

Tendering Officer, Joint Hospital Tendering Manager
James Byrne

Compliance and Operations Manager/ Data Protection Officer
Carl Alfvag

Quality, Risk and Patient Safety
Director of Quality, Risk and Patient Safety
Dr Anne Twomey

Claims Co-ordinator
Nicole Kennedy

Quality Manager
Rachel Irwin

Clinical Risk Managers
Clare O'Dwyer *(retired Sept)*
Laurence Rousseill

Project Programme Office to NMH at Elm Park
Dr Orla Sheil, Operational Programme Manager, Clinical Lead
Prof Jennifer Walsh, Joint Chair, Digital Health Steering Group
Martin Keane, Project ICT Lead
Damian McKeown, Project Co-ordinator
Eoghan Hayden, Commissioning & Transitioning Pillar Lead
Gillian Canty, Operational Readiness Deputy Lead
Martin Creagh, Co-location Deputy Lead
Geraldine Duffy, People Pillar Lead
Sarah McCourt, Administrator

ALLIED HEALTH PROFESSIONALS

Medical Social Work
Laura Harrington, *Head Medical Social Worker*

Senior Medical Social Workers
Ciara McKenna,
Sinead Stakelum
Karen McCormack
Adele Kane, Perinatal Mental Health
Ciara Buggy,
Doireann Kavanagh
Aoife Shannon

Senior Medical Social Worker Practitioner
Gillian McMurray

Medical Social Workers
Tina Moley, Medical Social Worker
Deirdre Real, Medical Social Worker
Sarah Lovely, Medical Social Worker

Radiography
Laura Moyles, *Radiographer Service Manager (Acting)*

Senior Radiographer
Bernadette Ryan
Carmel O'Connor
Lucy Collender
Eleanor Ryan

Clinical Specialist Radiographer
Clara Nolan
Una Murphy
Carla Groves
Elga Grimes
Margaret Daly

Physiotherapy
Judith Nalty, Physiotherapy Manager

Senior Physiotherapists
Lesley-Anne Ross (Gyn)
Eithne Lennon (Neo)
Sarah Fitzmaurice (Obs)
Laura O'Sullivan (Obs)
Sarah Mullins (Gyn)
Aoife Magner (Obs)

Clinical Specialist Physiotherapists
Jo Egan, (Neo)
Aoife Cullen (Gyn)
Ciara Ryan (Gyn)

Laboratory
Damian Lally, Laboratory Manager *(Acting)*

Chief Medical Scientist
Orla McCormack
Anya Curry
Catherine Doughty
Laura Kennedy *(from Oct)*
Natalie Sabine (Keogh) *(to Feb)*
Paula Whyte
Aoife Reynolds *(from Jun)*

Surveillance Scientist
Carol O'Connor

Senior Medical Scientist
Gwen Connolly
Laura Kennedy *(to Oct)*
Philip Clarke
David Mahon
Donal Noonan
Declan Ryan
Aoife Reynolds *(to Jun)*Christine Clifford *(from Nov)*

Pharmacy
David Fitzgerald, *Pharmacist Executive Manager*

Chief II Pharmacist (Deputy)
Áine Toher *(from May)*

Senior Pharmacist Medication Safety/ MN-CMS
Áine Toher *(to May)*

Senior Pharmacist NICU
Montserrat Corderroura,

Antimicrobial Pharmacist
Louise Delany

Senior Pharmacist Maternal Medicines Clinic
Benedetta Soldati

Senior Pharmaceutical Technicians
Linda Simpson
Rosie Kirwan

Pharmaceutical Technicians
Hannah Kerr

Dietetics
Roberta McCarthy, Manager (Neonatology) Head of Department
Sinead Curran, Manager (Obs & Gynae)

Clinical Specialist Dietitian
Catherine Chambers *(from Mar, Senior to Mar)*

Senior Dietitians
Laura Harrington
Sarah Louise Killeen

Clinical Engineering
Eoghan Hayden, *Chief Clinical Engineer*

Senior Clinical Engineer
Vasanth Pillai *(to Sept)*
Oleg Shrolik
Mark Power

Clinical Specialist, Speech & Language Therapist
Zelda Greene

Perinatal Mental Health
Fidelma Shortall

Clinical Psychologist
Aoife Menton

Art Therapist
Claire Flahavan

Psychosexual Counsellor
Meg Fitzgerald

Consultant Clinical Biochemist
Dr Orla Maguire *(retired May)*

Central Decontamination Unit
Pam Hutchings

Clinical Psychologist
Marie Slevin

Sonographer
Erica Maughan

Senior Occupational Therapist
Aoife Tonge *(from Apr)*

Principal Genetic Counsellor
Sinead Whyte (from Aug)

SENIOR SUPPORT SERVICES

Portering Services Manager
Claudiu Zselemi

Assistant Portering Services Manager
Glenn Kynes

Hygiene Services Manager
Mark Anderson

Catering
Elizabeth Byrne, Manager
Beata Banach
Martina Guiney
Michael Lennon
Paul Humphreys
Marta Jankowska

Engineering
Gearoid O Toole, Maintenance Supervisor
Ciaran Richardson, Engineering Building Services Assistant
Keith Lowry, Engineering Building Services Assistant

Chaplaincy
Helen Miley
Angela Neville Egan

CANDIDACY CHECKLIST FOR NEONATAL THERAPEUTIC HYPOTHERMIA (COOLING)

PATIENT'S NAME: _____ **HOSP. NO:** _____

TIME of BIRTH: _____:_____ hrs. **CURRENT AGE in hours /minutes:** _____ hrs._____ mins.

If current age is greater than 6 hours, call tertiary cooling centre before proceeding.

Directions for the use of this checklist: Start at the top and work through each numbered component. When directed to proceed to the exam, refer to the exam found on page 2. If there is missing data,(such as a known perinatal event and / or Apgar scores) and you are in doubt as to whether or not the patient qualifies for cooling, consult with the tertiary cooling centre promptly to discuss the patient.

**Note: If patient is < 6 hours old and meets the gestation, weight and blood gas criteria and has a witnessed seizure, patient is eligible for 'COOLING' regardless of additional exam findings. Consult the tertiary cooling centre to discuss any questions or concerns.*

Clinical Information	Criteria *(place a tick in the box that corresponds to the patient information)*	Instructions
Gestation	1 ≥ 36 weeks gestation ☐	Go to ⇛ 2 **Weight**
	= 35 weeks gestation ☐	May not be eligible *Contact cooling centre*
	< 35wks gestation ☐	Not Eligible
Weight	2 ≥ 1800 grams ☐	Go to ⇛ 3 **Blood Gas**
	< 1800 grams ☐	Not Eligible
Blood Gas pH = _____ Base Excess = _____ Source: Cord ☐ *Or* 1st infant blood gas at <1hour of life ☐ Arterial ☐ Capillary ☐ Venous Time Obtained: _____ : _____	3 pH < 7.0 *or* Base excess ≥ -16 ☐	Criteria met thus far. Go to **EXAM***
	No gas obtained ☐ *or* pH 7.0 to 7.15 ☐ *or* Base excess -10 to -15.9 ☐	Go to ⇛ 4 **History of acute perinatal event**
	pH >7.15 or Base Excess < 10 ☐	May not be eligible; Go to ⇛ 4 **History of acute perinatal event**
Acute Perinatal Event *(tick all that apply)*	4 Variable / late foetal HR decelerations ☐ Prolapsed / ruptured / tight nuchal cord ☐ Uterine Rupture ☐ Maternal haemorrhage / placental abruption ☐ Maternal trauma (eg. vehicle accident) ☐ Mother received CPR ☐	Any ticked, Go to ⇛ 5 **Apgar score**
	No perinatal event *or* Indeterminate what the event was because of home birth or missing information	May not be eligible; Go to ⇛ 5 **Apgar score**
Apgar Score at 1 minute _____ 5 minute _____ 10 minute _____	5 Apgar ≤ 5 at 10 minutes (yes) ☐	Criteria met thus far. Go to **EXAM***
	Apgar ≤ 5 at 10 minutes (no) ☐ *(no, was 6 or greater at 10 minutes)*	Go to ⇛ 6 **Resuscitation after delivery**
Resuscitation after Delivery *(tick all that apply)* _____ PPV/intubated at 10 minutes _____ CPR _____ Adrenaline administered	6 Continued need for PPV or Intubated at 10 minutes?(yes) ☐	Criteria met thus far. Go to **EXAM***
	PPV/Intubated at 10 minutes?(no) ☐	May not be eligible Go to **EXAM***

This checklist, adapted from the 'STABLE Program', 6th edition, 2013, has been produced by the National Neonatal Transport Programme (NNTP) and endorsed by the Faculty of Paediatrics, Royal College of Physicians, Ireland, in March 2014.

Circle findings for each domain

PATIENT IS ELIGIBLE FOR COOLING WHEN 3 OR MORE DOMAINS HAVE FINDINGS IN COLUMNS 2 OR 3

Domain	1	2	3
Seizures	**None**	**Seizures common:** (focal or multifocal seizures) (Multifocal: clinical activity involving > one site which is asynchronous and usually migratory) Note: If the patient is < 6 hours old and meets the gestation, weight and blood gas criteria and has a witnessed seizure, patient is eligible for cooling regardless of the rest of this exam	**Seizures uncommon:** (excluding decerebration) ***Or*** Frequent seizures
Level of Consciousness	**Normal** **or** **Hyperalert**	***Lethargic*** Decreased activity in an infant who is aroused and responsive **Definition of Lethargic:** • Sleeps excessively with occasional spontaneous eye opening • Responses are delayed but complete • Threshold for eliciting such responses increased • Can be irritable when disturbed	**Stuporous / Comatose** Demonstrates no spontaneous eye opening and is difficult to arouse with external stimuli **Definition of Stuporous:** • Aroused only with vigorous and continuous stimulation **Definition of Comatose:** • No eye opening or response to vigorous stimulation In both stupor and / or coma, the infant may respond to stimulation by grimacing / stereotyped withdrawal / decerebrate posture
Spontaneous activity when awake or aroused	**Active** **Vigorous, doesn't stay in one position**	**Less than active, not vigorous**	**No activity whatsoever**
Posture	**Moving around and does not maintain only one position**	**Distal flexion, complete extension or "frog-legged" position** Term infants with HIE often exhibit • Weakness in hip-shoulder distribution (eg proximal part of extremities) • Distal joints, fingers and toes often exhibit strong flexion • Thumbs strongly flexed and adducted. • Wrists often flexed • Above postures are enhanced by any stimulation	**Decerebrate with or without stimulation (all extremities extended)**
Tone	**Normal** • Resists passive motion **Hypertonic, jittery** • Lowered threshold to all types of minimal stimuli eg light touch, sudden noises • Infant may even respond to his/her own sudden movements	**Hypotonic or floppy,** • Axial hypotonia (ie. head lag) and/or limb hypotonia	**Completely flaccid like a rag doll**
Primitive reflexes	***Suck:*** Vigorously sucks finger or ETT ***Moro:*** Normal: Limb extension followed by flexion with stimulus	***Suck:*** Weak ***Moro:*** Incomplete	***Suck:*** Completely absent ***Moro:*** Completely absent
Autonomic system	***General Activation of Sympathetic nervous system*** ***Pupils:*** • Normal size (-1/3 of iris diameter) • Reactive to Light ***Heart Rate:*** • Normal, > 100bpm ***Respirations:*** • Regular spontaneous breathing	***General Activation of Parasympathetic nervous system*** ***Pupils:*** • Constricted (< 3mm estimated) • but reactive to light ***Heart Rate:*** • Bradycardia (< 100bpm, variable up to 120) ***Respirations:*** • Periodic, irregular breathing effort • Often have more copious secretions and require frequent suctioning	***Pupils:*** • Skew gaze, fixed, dilated, • not reactive to light ***Heart Rate:*** • Variable, inconsistent heart rate, irregular, may be bradycardic ***Respirations:*** • Completely apnoeic, requiring PPV & / or ET intubation and ventilation

Neurological Exam to evaluate candidacy for cooling: If in doubt as to whether patient qualifies for cooling, consult with the cooling centre promptly to discuss the patient.

Glossary

ABG	Arterial blood gas
AC	Abdominal circumference
ACA	Anticardiolipin antibodies
ACH	After coming head
aEEG	Amplitude integrated EEG
AFI	Amniotic fluid index
AFV	Amniotic fluid volume
AGA	Appropriate for gestational age
ALT	Alanine aminotransferase
Anaemia	A haemoglobin level of less than 102% g/dl
ANC	Antenatal care
APCR	Activated protein C resistance.
APH	Antepartum haemorrhage Bleeding from the genital tract after 24 weeks gestation
APTT	Activated partial thromboplastin
ARM	Artifical rupture of the membranes to induce labour
ASD	Atrial septal defect
AST	Asparate aminotransferase
AVSD	Atrioventricular septal defect
BBA	Born before admission
BMI	Body mass index
BMV	Bag and Mask Ventilation
BPP	Biophysical profile
BP	Blood pressure
BPD	Biparietel diameter
BPD	Bronchopulmonary dysplasia
BPP	Bio physical profile
BSO	Bilateral salpingo oophorectomy
CCAM	Congenital cystic adenomatoid malformation
CHD	Congenital heart defect
CIN	Cervical intraepithelial neoplasia
CK	Creatine kinase
CLD	Chronic lung disease
CMV	Cytomegalovirus
CPAP	Continuous positive airway pressure
CPC	Choroid plexus cysts
CPD	Cephalopelvic disproportion
CPG	Capilliary blood gas
CPR	Cardiopulmonary resuscitation
CRP	C reactive protein
CSA	Childhood sexual abuse
CSF	Cerebro spinal fluid
CT	Computerised axial tomography
CTG	Cardiotocograph
CTPA	Computed tomography pulmonary angiogram
CVP	Central venous pressure
CVS	Cardiovascular system
CXR	Chest x-ray
D Day	
DCH	Diffuse chorioamnionic haemosiderosis
D/C	Dilatation and curettage
DIC	Disseminated intravascular coagulation
DNA	Did not attend
Domino	Domicillary In Out
DR	Delivery room
DTR	Deep tendon reflex
DVT	Deep vein thrombosis
DWI	Diffusion-weighted images
EBL	Estimated blood loss
Echo	Echocardiogram
ECHO	Extracorpeal membrane oxygenation
ECV	External cephalic version
EDF	Enddiastolic flow
EDV	Enddiastolic volume
EFM	Electronic fetal monitoring
EFW	Estimated fetal birth weight
ELBW	Extremely low birth weight
ET	Endotracheal
ETT	Endotracheal tube
EUA	Examination under anaesthetic
FBS	Fetal blood sampling
FD	Fetal distress
FFP	Fresh frozen plasma
FHH/NH	Fetal heart heard/not heard
FIR	Fetal inflammatory response
FM	Fetal movements
FMF	Fetal movement felt
FMNF	Fetal movements not felt
FSE	Fetal Scalp Electrode
FTA	Failure to advance
FTND	Full term normal delivery
FVM	Fetal Vascular Malperfusion
G and M	Grossly and microscopically
GA	General anaesthetic
GAD	Gestation at delivery
GBS	Group B Streptococcus
GCT	Glucose Challenge Test
GDM	Gestational diabetes mellitus
GIS	Gastrointestinal system
GP	General practitioner
GTT	Glucose tolerance test
GUS	Genitourinary system
Hb	Haemoglobin g/dl
HCG	Human chorionic gonadotrophin
HELLP	Haemolysis elevated liver enzymes low platelets
HFO	High frequency oscillation
HR	Heart rate
Hrs	Hours
HRT	Hormone replacement therapy
HSV	Herpes simplex virus
HVS	High Vaginal Swab
IA	Intermittent auscultation

IDDM	Insulin dependent diabetes mellitusl
HCP	Intrahepatic cholestasis of pregnancy
IMB	Intramenstrual bleeding
IMV	Intermittent mandatory ventilation
INR	International normalised ratio
IOL	Induction of labour
IPP	Intermittent positive pressure
IPPV	Intermittent positive pressure ventilation
ITP	Idiopathic thrombocytopenic purpura
IUCD	Intrauterine contraceptive device
IUD	Intrauterine death
IUGR	Intrauterine growth retardation
IUI	Intra uterine insemination
IUT	Intrauterine transfusion
IVDA	Intravenous drug abuser
IVH	Intra ventricular haemorrhage
IVIG	Intravenous immunoglobulin
L/S	Lecithin/Sphingomyelin
LA	Lupus anticoagulant
LBI	Liveborn infant
LDV	Lactate dehydrogenase
LFD	Large for dates
LFT	Liver function test
LGA	Large for dates
LLETZ	Large loop exision of transformation zone
LMP	Last menstrual period
LMWH	Low molecular weight heparin
LP	Lumbar Puncture
LSCS	Lower segment caesarean section
LSR	Lecithin/sphingomyelin ratio
LUS	Lower uterine scar
LVH	Left ventricular hypertrophy
LVS	Low vaginal swab
MCA	Middle cerebral artery
Mins	Minutes
MIR	Maternal inflammatory response
MRA	Magnetic resonance angiogram
MRI	Magnetic resonance imaging
MROP	Manual removal of placenta
MSU	Mid-stream urinalysis
MSV	Mauriceau smellie veit
MVM	Maternal Vascular Malperfusion
ND	Normal delivery
NEC	Necrotising enterocolitis
NED	No evidence of disease
NER	Neonatal encephalopathy register
NICU	Neonatal intensive care unit
NIPPV	Nasal intermittent positive pressure ventilation
NND	Neonatal death
NO	Nitric oxide
NPO	nil by mouth
N/R	Not recorded
NRCTG	Non reassuring CTG
NS	Normal saline
NSAPH	Non substantial antepartum haemorrhage
NST	Non stress test
NT	Nuchal translucency
NTD	Neural tube defect
OCP	Oral contraceptice pill
OHSS	Ovarian hyperstimulation syndrome
OP	Occipital Posterior
PCB	Post coital bleeding
PCOS	Polycystic ovary syndrome
PCR	Polymerase chain reaction
PDA	Patent ductus arteriosis
PE	Pulmonary embolism
PET	Pre-eclamptic toxaemia
PFA	Plain film of the abdomen
PFC	Persistent fetal circulation
PFO	Patent foramen ovale
PGA	Post gestational age
PIE	Pulmonary interstitial emphysema
PLIC	Posterior limb of the internal capsule
PMB	Post menopausal bleeding
PNW	Postnatal ward
POM	Puncture of membranes to accelerate labour
POP	Persistent occipito posterior position
PPH	Post partum haemorrhage
PPHN	Persistent pulmonary hypertension
PPROM	Preterm pre-labour rupture membranes
PR	Pulmonary regurgitation
PROM	Preterm rupture of membranes
PTX	Pneumothorax
PVL	Periventricular leucomalacia
RBC	Red blood cell
RCC	Red cell concentrate
RDS	Respiratory distress syndrome
RLF	Retrolental fibroplasia
RPOC	Residual products of conception
RS	Respiratory system
RV	Right ventricle
RVH	Right ventricular hypertrophy
SA	Spinal analgesia
SBI	Stillborn infant
SCBU	Special care baby unit
SFD	Small for dates
SFD	Suspected fetal distress
SG	Social group
SGA	Small for gestational age
SIADH	Syndrome of inappropriate ADH secretion
SIDS	Sudden infant death syndrome
SIMV	Synchronized intermittent mandatory ventilation
SMR	Standardised mortality rate
SROM	Spontaneous rupture of membranes
SUA	Single umbilical artery
SVC	Superior vena cava
SVD	Spontaneous vaginal delivery
TAH	Total abdominal hysterectomy

TAH & BSO	Total abdominal hysterectomy and bilateral salpingoopherectomy
TAPVD	Total anomalous pulmonary venous drainage
TAS	Thoracamniotic shunt
TC	True conjugate
TDS	Three times a day
TICH	Traumatic intracranial haemorrhage
TLD	Therapeutic loop diathermy
TOF	Tracheo oesophageal fistula
TR	Tricuspid regurgitation
TTN	Transient tachypnoea of the newborn
TTT	Twin to twin transfusion
TVT	Tension-free vaginal tape
U/S	Ultrasound
UA	Umbilical artery
USS	Ultrasound scan
UTI	Urinary tract infection
VAIN	Vaginal intraepithelial neoplasia
VBG	Venous blood gas
VIN	Vulval intraepithelial neoplasia
VLBW	Very low birthweight
VOD	Vermont oxford database
VON	Vermont oxford network
VP	Ventriculoperitoneal
VSD	Ventricular septal defect
Vx	Vertex
WCC	White cell count
XRP	X-ray pelvimetry

Definitions

Approach to Data Presentation in Clinical Report
Presentation of data in the individual cases is now recorded in tabular form. An explanation of placental terminology is provided in appendix 1. Individual cases are categorised according to the disease process that caused death. Many cases will have multiple pathologies and multiple potential causes of death, and the sequence leading to these is given in the final (diagnostic) line.

The approach taken in cases with potentially competing causes of death is that analysis of this data enables calculation of hospital mortality in infants without a lethal or potentially lethal congenital anomaly.

IUGR can be variously applied to infants at the 3rd, 5th or 10th centiles. The third centile is the one shown to correlate best with perinatal mortality. The reference ranges for centiles given in this report are those published by the Child Growth Foundation (UK) (updated 2002).

Maternal death: Death of a patient, booked or unbooked, for whom the hospital has accepted responsibility, during pregnancy or within six weeks of delivery whether in the hospital or not.

Stillborn infant: A baby with birthweight greater than or equal to 500g and/or 24+0 wks estimated gestational age, who shows no signs of life at delivery.

Early neonatal death: A baby born alive with birthweight greater than or equal to 500g and/or 24+0 wks estimated gestational age, who dies within 7 days.

Perinatal mortality rate: The sum of stillbirths and early neonatal deaths per 1,000 total births whose birthweight is greater than or equal to 500g and/or 24+0 wks estimated gestational age.

Corrected perinatal mortality rate: The sum of stillbirths and early neonatal deaths per 1,000 total births whose birthweight is greater than or equal to 500g and/or 24+0 wks estimated gestational age excluding congenital anomalies.

Gestation: The best estimate is the duration of gestation using the first day of the last normal menstrual period and early ultrasound as appropriate in the clinical circumstances.

Preterm: Less than 37 completed weeks.

Postdates: 42 weeks or greater.

Prolonged labour: Labour more than 12 hours - nulliparous.

Labour length: Duration of time spent in the labour ward.

Blood Gases: Capillary, Arterial and Venous Blood gases given in order pH, Partial Pressure of Oxygen (PO_2), Partial Pressure of Carbon (PCO_2) and Base Excess (BE).

PATHOLOGY

Thrombophilia screen
Prothrombin Time, INR, APTT, Thrombin Time, Fibrinogen, Lupus Anticoaguloant screen - (Lupus anticoagulant, anticardiolipin antibodies, beta-2 glycoprotein 1 antibody), Anti Thrombin Three, Protein C, Protein S Free, Modified APCR (FVLeiden mutation if appropriate).

Postmortem
The perinatal autopsy involves external examination of body, with appropriate photographs and X-ray. Internal examination includes inspection of cranial, thoracic and abdominal cavities with removal and weighing of organs: organs are retuned to the body before release. Samples are taken for subsequent processing and histologic examination. Extent of sampling of tissue such as spinal cord, nerve and muscle depends on clinical details and on the extent of maceration. The autopsy includes swabs for culture from body cavities and washings for virology. Tissue is frozen for fat stains and may be used for assessment of metabolites. Cytogenetic analysis and where indicated, microarray, may be performed on ether skin or placental tissue. The placenta is reported in conjunction with the autopsy, and maternal blood results are also evaluated in reaching a diagnosis. The quality of the report is benchmarked against standards set in the Faculty of Pathology, RCPI QA/QI programme.

A provisional anatomic diagnosis is issued within two working days (except in Coroner's cases, where it is not issued), and the final report is usually within 8 weeks. Occasional cases take longer due to complexity and/or the necessity for external consultations.

Placental pathology
A triage system is in place for placental examination. The entire placenta is submitted to the laboratory:
a) from cases of Caesarean section
b) from cases born in the delivery ward, where there is an abnormality of pregnancy, labour, delivery or the neonatal period.

In other cases, the placenta is kept refrigerated for seven days and retrieved if an indication for analysis becomes apparent.

Data from analysis of cases of Perinatal morbidity or mortality is returned in an anonymised fashion to the National Perinatal Epidemiology Centre, UCC, where it is pooled with data from other maternity units and national trends and benchmarks are published. The terminology used is the same consensus terminology as that used by NPEC (Khong TY et al). Some of these terms are expanded on below.

Maternal vascular malperfusion (MVM)
This is a spectrum: at the less severe end is mild accelerated villous maturation, then ischemic villous crowding and latterly infarction, also referred to as uteroplacental insufficiency (UPI). Increasingly, terms such as "shallow implantation" are being used to explain the pathogenesis. Expected findings in a case of severe PET would be a small placenta with recent and old infarcts, located centrally and peripherally in the parenchyma. Atherosis is fibrinoid change in vessels, seen in about half of cases of PET and occasionally in other conditions eg connective tissue disease.

Hypoxic membrane lesions
Laminar decidual necrosis may be regarded as an acute hypoxic lesion, and microcystic change in the chorion as a chronic hypoxic lesion.

Meconium
When present in large quantities, meconium may cause necrosis of muscle cells in the walls of chorionic vessels and possibly lead to vasospasm and ischaemia.

Chorangiosis
More vessels than normal are seen in terminal villi. It may be present as a primary finding or as a reaction where adjacent villi have been destroyed by villitis, and is suggested to be a marker of chronic hypoxia.

PATTERNS OF INFLAMMATION

Chorioamnionitis
The terms "maternal inflammatory response" and "fetal inflammatory response are used with each being staged and graded according to consensus guidelines. There is an association between a severe fetal inflammatory response and brain damage in both term and pre-term infants.

Maternal-fetal immune interaction.
This may be manifest as any or all of villitis, intervillositis, chronic chorioamnionitis and deciduitis.

Villitis
Rare cases of villitis are due to infection eg CMV, but most are of unknown aetiology and are immunologically mediated. Villitis is graded as low-grade or high-grade. Overall, villitis is seen in 10% of placentas; high-grade villitis occurs in < 2% and is associated with an adverse perinatal outcome. Villitis may cause damage to fetal vessels in the placenta and this is associated with neurologic damage in term infants. It may recur in subsequent pregnancies.

Intervillositis
Chronic histiocytic intervillositis is relatively rare, but is over-represented in the cases in this report. It is associated with growth restriction and perinatal loss, with a mean gestation of loss of 25/40. It is more common in patients with immune dysregulation, and is likely to recur in subsequent pregnancies.

THROMBOSIS AND HAEMORRHAGE

Fetal vascular malperfusion (FVM)
Occlusions of the fetoplacental circulation are manifest by: extensive avascular villi, obliterated stem arteries, haemorrhagic villitis, and occlusive thrombi. The term fetal thrombotic vasculopathy is also used. High-grade FVM, in particular, is associated with neonatal encephalopathy.

Non-occlusive mural fibrin thrombi
These are found in large fetal vessels in approx 10% of placentas. They are more common in cases with FTV and abnormal coiling; they reflect impaired fetoplacental flow, but the significance of isolated ones in smaller stem vessels is at present unclear.

Cord coiling
The cord normally has one coil per 5cm. Both hypo- and hypercoiled cords are associated with IUGR, fetal death, cord stricture, thrombosis and an abnormal response to labour.

Abruption and retroplacental haemorrhage (RPH)
RPH may be identified on pathologic examination of the placenta, but have been clinically silent. Conversely, dramatic clinical abruption may leave no changes in the placenta. In many cases RPH causes compression infarction of the placenta.

Diffuse chorioamniotic haemosiderosis (DCH)
This is diagnosed by the presence of haemosiderin-laden macrophages in the membranes and/or chorionic plate. Such placentas are more likely to show circumvallation, old peripheral blood clots and green discoloration. Clinically, DCH is associated with chronic vaginal bleeding, multiparity and smoking. Blood and breakdown products are released into the amniotic fluid. Oligohydramnios, IUGR and a lower gestational age at delivery have been found more commonly in cases with DCH. Persistent pulmonary hypertension and dry lung syndrome are more common in these neonates. DCH may represent chronic peripheral separation of the placenta, possibly from marginal venous bleeding (rather than the arterial bleed of abruption).

ABNORMAL PLACENTAL DEVELOPMENT

Delayed/abnormal villous maturationThis
is where the placenta has failed to develop appropriately for gestational age, partially or completely. It is a poorly understood entity, and is associated with diabetes. It is associated with an increased risk of stillbirth. Some cases may receive a descriptive diagnosis eg abnormal maturation or variable villous maturation where there is a mixed picture, with some areas showing delayed maturation and other areas accelerated maturation. The term "distal villous immaturity" is also used.

Increased perivillous fibrin
Localised increases in fibrin are common, but a diffuse increase, sometimes in a pattern called "maternal floor infarction" is associated with an adverse outcome.

Placental weight
In general, the term placenta weighs between one sixth and one seventh of the infant's weight, but a wide range of placental weights is seen in normal infants. The weight is given in the cases discussed where it is felt to be markedly abnormal. Fetoplacental weight ratio (median of around 7 at term) are sometimes used.

Updated September 2018

Khong T Yee, Mooney EE, Ariel I et al. Sampling and definition of placental lesions. Amsterdam Placental Workshop Group

Consensus Statement. Arch Pathol Lab Med 2016;140:698-713.

Appendix 2: Classification of indications for caesarean section in spontaneous labour or after having had labour induced

Fetal reason
Caesarean section for fetal indication before any oxytocin has been given.

Dystocia

Inefficient uterine action/inability to treat/ fetal intolerance
Problem is inadequate progress with no fetal problems until oxytocin is started.

Inefficient uterine action/inability to treat/ overcontracting
Problem is inadequate progress but oxytocin does not reach maximum dose as per protocol in unit because of overcontracting uterus.

Inefficient uterine action/poor response
Problem is inadequate progress which does not improve after being treated with the maximum dose of oxytocin according to the protocol in the unit.

Inefficient uterine action/no oxytocin
Problem is inadequate progress which for whatever reason has not been treated with oxytocin.

Efficient uterine action/CPD/POP*
Adequate progress (1cm/hr) and in nulliparous women would need to have been treated with oxytocin) but vaginal delivery not possible.
*In multiparous women the term CPD/POP is replaced with obstructed labour.

CLASSIFICATION OF INDICATIONS FOR INDUCTIONS OF LABOUR

Fetal reasons
Includes all indications for induction that are carried out for the benefit of the fetus.

PET/Hypertension
Includes all indications for induction that are carried out for hypertensive disorders.

Post Dates
Includes all inductions that are carried out specifically for 42 weeks gestation or greater.

SROM
Includes all inductions for spontaneous rupture of the membranes

Maternal reasons/Pains
Includes all indications for induction that are carried out for the benefit of the mother including pains not in labour

Non medical reasons/Dates< 42 weeks
Includes all indications for inductions where there is no absolute medical indication or for dates but less than 42 weeks

The National Maternity Hospital Annual Report 2023
Photography in the Report

Some professional images in the report were sent in by patients and we are grateful for their contribution. Other images included are from Mark Griffin Photography and Denis Towell (Charter Day images), press releases, the NMH Staff Newsletter and other photos staff shared with us and we are grateful to have them all.

Print & Design
Printcomp

Project Managed by Fionnuala Byrne, Information Officer

The Linen Guild
The National Maternity Hospital

The Linen Guild is a discretionary charity founded in 1912 which provides emergency assistance to mothers and babies in need who attend The National Maternity Hospital.

It is a 100% voluntary charity organisation. All members are volunteers who give willingly of their time and share our common objective of wanting to help mothers and newborn babies in difficult circumstances at a vulnerable time.

We are self-funding through donations and a variety of fund raising initiatives during the calendar year. 100% of all the money raised go directly to help mothers and babies who need emergency financial and practical support.

thelinenguild@gmail.com

NMH Foundation
Helping Holles Street

The NMH Foundation exists to raise vital funds for the National Maternity Hospital, with a focus on advancing maternal and neonatal health in Ireland. We raise vital funds to invest in research, to provide vital equipment and technology within the hospital, and to support the work of the care teams and support services caring for mothers and tiny babies. The NMH Foundation is helping babies to arrive, survive and thrive.

NMH Foundation, The National Maternity Hospital, Holles Street, Dublin 2

foundation@nmh.ie | 01 637 3372 | www.nmhfoundation.ie

CRA 20080891 | CHY 20389